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FM 7-17

DEPARTMENT OF THE ARMY FIELD MANUAL

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ON

THE ARMORED INFANTRY COMPANY AND BATTALION

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DEPARTMENT OF THE ARMY • MARCH 1951

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FM 7-17
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FIELD MANUAL

THE ARMORED INFANTRY COMPANY AND BATTALION

CHANGES No. 1 | DEPARTMENT OF THE ARMY
WASHINGTON 25, D. C., *12 September 1952*

FM 7-17, 23 March 1951, is changed as follows:

285.1 FORWARD AIR CONTROLLER

(Added)

a. A tactical air control party (TACP) consisting of a forward air controller (FAC), who normally is a combat experienced fighter pilot, his enlisted assistants and equipment, may operate with an armored infantry battalion. The primary mission of the TACP is to direct close air support strikes in the vicinity of forward ground elements by visual methods. It is a highly mobile element having air-to-ground communication to vector aircraft to targets, and point-to-point communications with the tactical air control center (TACC) or tactical air direction centers (TADC) and with the division air liaison officer (ALO). At times the forward air controller may be airborne to facilitate control and direction of air strikes. Under these conditions the controller is referred to as a tactical air coordinator (TAC). At other times the forward air controller may ride in a tank equipped with the necessary ground-to-air communication. A tank is provided in the T/O & E of Headquarters and Headquarters Company, Combat Command for this purpose.

b. Functions of TACP(s)—

(1) To direct close offensive air support aircraft to targets in the vicinity of friendly

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positions and to direct visual reconnaissance of specified areas.

(2) To receive information from reconnaissance or other aircraft for transmission to the battalion commander, the division ALO, and the appropriate TADC.

(3) To report observed results of air strikes to the battalion commander, the division ALO, and the appropriate TADC.

(4) To advise the battalion commander and his staff on matters pertaining to tactical air operations.

(5) To assist in identifying the location of friendly front line units.

322. CLOSE AIR SUPPORT DURING THE ATTACK
(Superseded)

a. Close air support may be available to the armored infantry battalion commander for the execution of either preplanned or immediate missions. Frequently air or ground alert aircraft are made available to the division or combat command in order that immediate missions may be accomplished with the minimum delay. Air strikes are controlled by the tactical air control party. The forward air controller remains with the command group until a target is designated; he then moves to a vantage point where he can direct the air strike on the designated target. Close liaison is maintained between the forward air controller and artillery liaison officer to insure prompt exchange of information gained from both ground and air observation and to assist in marking of targets. Fighter planes normally support the attack by bombs, rockets, incendiary missiles, and by strafing.

b. Typical Targets To Be Selected.

(1) *Gun positions.*
(2) *Vehicles, including armor.*
(3) *Command posts.*
(4) *Concentration of troops.*
(5) *Strongly defended positions.*
(6) *Pill boxes.*
(7) *Defended road blocks.*
(8) Other targets artillery may not be able to engage effectively.

322.1 AIR REQUESTS

(Added)

a. Requests for close air support will include the following minimum information:

(1) Location of target indicated by grid reference or other means.
(2) Description of target including sufficient detail to permit selection of appropriate armament.
(3) Results desired; for example, destruction or neutralization.
(4) Location of nearest friendly troops with respect to the target at the time of attack.
(5) Attack time limits, to include time of attack and latest time attack can be made and still accomplish desired results.
(6) Tactical significance.
(7) Special control information including target and front-line marking and forward air controller in position to control attacking aircraft.
(8) Other pertinent information to be supplied by appropriate FSCC's, such as ordinates of ground fires in the area and restrictive fire plans.

b. Requests for reconnaissance air support will include the following minimum information:

(1) Area, routes or targets to be covered.
(2) Time the coverage is to be effected.
(3) Type reconnaissance desired (visual or photo).
(4) Significance of desired information. (Justification for the request.)
(5) Specific information desired.
(6) Forward air controller in position to control aircraft, if necessary.
(7) *In addition for photo reconnaissance—*
  (*a*) Type photograph desired (vertical, oblique, mosaic, etc.).
  (*b*) Scale desired.
  (*c*) Distribution desired.
  (*d*) Number of prints desired.

c. Normally, requests for air support originating at the battalion will be given a priority and transmitted to combat command. When the division has established, based on traffic load, a separate air request net, immediate requests may be transmitted from battalion direct to division.

322.2 TARGET IDENTIFICATION
(Added)

a. Close air support targets located between the bomb line and friendly troops must be properly identified to the striking aircraft prior to attack. The forward air controller normally accomplishes the target identification and control for these strikes. He must coordinate with, advise, and receive assistance from ground elements when required. He should

work closely with the artillery liaison officer. A forward air controller may identify a target for aircraft through any one or a combination of the methods indicated in (1) through (10) below—

(1) Reference to grids or coordinates on large scale maps or photographic mosaics.
(2) Reference to nearby landmarks or terrain features readily discernible to the pilot.
(3) Use of colored panels to establish reference points for navigational aid.
(4) Mark targets with smoke shells from artillery, mortars, grenades, recoilless rifles, etc.; colored smoke is preferable.
(5) Use of searchlights or illuminating shells; i. e., artillery, mortar, naval, etc., to illuminate specified target areas at night or as reference points.
(6) Verbal description of the target by the forward air controller to the aircraft.
(7) Adjustment of simulated air attacks for pilot orientation.
(8) Radio communication from friendly unit to Army light aircraft, who can in turn lead attacking aircraft to the target.
(9) Use of electronic equipment (radio homing devices, beacons, etc.).
(10) Use of any one or a combination of the above methods to orient a tactical air coordinator who, in turn, leads attacking aircraft to the target.

b. It is normal for the battalion to establish a standing operating procedure on employment of close air support based on the standing operating procedure or policies of the next higher headquarters.

[redacted]

322.3 MARKING FORWARD TROOP LOCATIONS
(Added)

a. Close air support strikes require a simple, yet exacting, system of marking of forward troop locations at the time of the air attack. Forward troop locations may be marked or identified for aircraft through any one or a combination of the methods indicated in (1) through (6) below.

(1) Reference to grids or coordinates on large scale maps or photographic mosaics.
(2) Reference to nearby landmarks or terrain feature readily descernible to the pilot.
(3) Displaying colored panels to portray locations of forward troops with relation to target.
(4) Establishment of reference points with colored panels or smoke shells. Colored smoke is preferable.
(5) Verbal description of forward troop locations or reference points by the forward air controller to the aircraft.
(6) Use of electronic equipment (radio homing devices, beacons, etc.).

b. It is normal for the battalion to establish a standing operating procedure on marking of forward troop locations based on the standing operating procedure or policies of the next higher headquarters.

376.1 CLOSE AIR SUPPORT
(Added)

Normally a tactical air control party (TACP) operates with each armored infantry battalion commander. The forward air controller (FAC) who commands this party acts as an advisor to the bat-

talion commander on air support matters. On large scale defensive operations, the availability of close air support aircraft is frequently greatly reduced since the number of such aircraft required for air superiority and interdiction tasks is greatly increased.

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BY ORDER OF THE SECRETARY OF THE ARMY:

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Major General, USA
The Adjutant General

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Chief of Staff,
United States Army

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DEPARTMENT OF THE ARMY FIELD MANUAL
FM 7–17

This manual supersedes FM 17-40, 21 November 1944, and FM 17-42, 10 November 1944

THE ARMORED INFANTRY COMPANY AND BATTALION

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EDWARD F. WITSELL
Major General, USA
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J. LAWTON COLLINS
Chief of Staff,
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DISTRIBUTION:

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CONTENTS

		Paragraphs	Page
PART ONE. GENERAL			
CHAPTER 1. CHARACTERISTICS, EMPLOYMENT AND ORGANIZATION			
Section I.	Introduction	1–4	1
II.	Characteristics	5–8	3
III.	Fundamentals of employment	9–14	7
IV.	Factors affecting employment of armored personnel carriers	15–16	9
V.	Organization for combat	17–19	11
VI.	Communication	20–32	17
VII.	Utilization of fire power	33–35	23
VIII.	Liaison	36	29
IX.	Estimate of the situation and troop leading procedure	37–40	31
CHAPTER 2. MARCHES, BIVOUACS, AND ASSEMBLY AREAS			
Section I.	Marches	41–64	38
II.	Bivouac	65–73	59
III.	Assembly areas	74–78	68
IV.	Supply, maintenance, and evacuation during marches, in bivouacs, and in assembly areas	79–87	71
CHAPTER 3. TANK-ARMORED INFANTRY COORDINATION AND COOPERATION IN THE ATTACK			
Section I.	General	88–93	76
II.	Mounted methods of attack	94–97	84

CHAPTER 3—Continued	Paragraphs	Page
Section III. Dismounted methods of attack	98–103	90
IV. Combination methods of attack	104	96
CHAPTER 4. SUPPLY, MAINTENANCE, EVACUATION, AND MEDICAL SERVICE		
Section I. Supply	105–118	100
II. Maintenance, battlefield recovery, and vehicular evacuation	119–123	112
III. Medical service	124–128	116
IV. Burials and graves registration	129	120
CHAPTER 5. TRAINING		
Section I. Fundamentals	130–133	121
II. Individual training	134–135	124
III. Unit training	136–138	124
PART TWO. THE ARMORED INFANTRY RIFLE COMPANY		
CHAPTER 6. THE RIFLE PLATOON		
Section I. General	139–143	127
II. Platoon combat formations	144–147	129
III. Preparation for the attack	148–151	137
IV. Conduct of the attack	152–159	142
V. Sustained defense	160–169	155
VI. Mobile defense	170–178	165
CHAPTER 7. THE 60-MM MORTAR PLATOON		
Section I. General	179–183	169
II. Preparations for the attack	184–189	172
III. The attack	190–193	176
IV. Defense	194–201	178
CHAPTER 8. ARMORED INFANTRY RIFLE COMPANY IN OFFENSIVE COMBAT		
Section I. General	202–206	186
II. Preparations for the attack	207–217	190

CHAPTER 8—Continued	Paragraphs	Page
Section III. The attack	218–226	201
IV. Reserve rifle company in attack	227–229	217
V. Exploitation and pursuit	230–233	219
CHAPTER 9. ARMORED INFANTRY RIFLE COMPANY IN DEFENSE		
Section I. General	234–236	222
II. Front-line rifle company in sustained defense	237–254	227
III. Reserve company in sustained defense	255–258	248
IV. Mobile defense	259	251
V. Reinforced rifle company as part of outpost system in mobile defense	260–267	251
VI. Reinforced rifle company as part of a reserve battalion in mobile defense	268	259
PART THREE. THE ARMORED INFANTRY BATTALION		
CHAPTER 10. BATTALION HEADQUARTERS, HEADQUARTERS AND SERVICE COMPANY		
Section I. Battalion commander	269–273	261
II. Battalion staff	274–287	263
III. Headquarters and service company	288–296	284
IV. Medical detachment	297	297
CHAPTER 11. THE ARMORED INFANTRY BATTALION IN OFFENSIVE COMBAT		
Section I. General	298–312	298
II. Preparation for the attack	313–330	310
III. Conduct of the attack	331–339	337
IV. Reserve battalion in attack	340–342	347
V. Exploitation and pursuit	343–355	348

		Paragraphs	Page
CHAPTER 12. THE ARMORED INFANTRY BATTALION IN DEFENSE			
Section I.	General	356–360	373
II.	Front-line battalion in sustained defense	361–408	375
III.	Reserve battalion in sustained defense	409–410	411
IV.	Mobile defense	411–413	411
V.	Battalion providing the outpost system for a larger force	414–420	415
VI.	Reinforced armored infantry battalion using mobile defense when operating independently	421–423	423
VII.	Reinforced armored infantry battalion as combat command reserve in mobile defense	424–427	427
CHAPTER 13. RETROGRADE OPERATIONS			
Section I.	General	428	429
II.	Daylight withdrawal	429–433	430
III.	Night withdrawal	434–441	435
IV.	Delaying action	442–447	440
V.	Retirement	448	449
PART FOUR. OTHER OPERATIONS			
CHAPTER 14. NIGHT OPERATIONS		449–463	451
CHAPTER 15. SPECIAL OPERATIONS			
Section I.	Attack in woods	464–471	476
II.	Attack of a river line	472–487	484
III.	Raids	488–506	501
IV.	Attack in towns	507–509	512
V.	Attack of fortifications	510–512	517
VI.	Operations in extreme cold	513	518
VII.	Desert operations	514–520	519
VIII.	Amphibious operations	521–532	522
IX.	Defense of a river line	533–539	527
X.	Defense in woods	540	530

CHAPTER 15—Continued	Paragraphs	Page
Section XI. Combat in jungles	541–546	531
XII. Defense in built-up areas	547–552	536
XIII. Defense against airborne attack	553–555	542
XIV. Perimeter defense	556	545
XV. Operations against guerillas or irregular forces	557–564	545
XVI. Operations through mine fields	565–567	552
APPENDIX I. REFERENCES		558
II. SQUAD, PLATOON, AND COMPANY ORDERS		562
III. COMBAT FORMATIONS		569
IV. UNIT JOURNAL		599
V. UNIT REPORT		601
VI. ORDERS		604
VII. SUBJECT SCHEDULE		619
INDEX		703

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PART ONE

GENERAL

CHAPTER 1

CHARACTERISTICS, EMPLOYMENT, AND ORGANIZATION

Section I. INTRODUCTION

1. PURPOSE

This manual is a guide for the tactical employment of the armored infantry company and battalion either when reinforced by tanks or when acting alone.

2. SCOPE

This manual is divided into four parts. Part one discusses general information applicable to the platoon, company, and battalion; part two covers details of employment of the armored infantry rifle company and its platoons; part three covers details of employment of the headquarters, headquarters and

service company, and the tactical employment of the armored infantry battalion; part four takes up special operations applicable to the company and battalion.

3. MISSION AND CAPABILITIES

a. Mission. Armored infantry has the mission of closing with and destroying the enemy by fire and maneuver, repelling hostile assaults in close combat, and providing infantry support for tanks.

b. Capabilities. Armored infantry is capable of—

(1) Accompanying tanks in offensive action—either in armored personnel carriers, dismounted, or mounted on the tanks—to close with and destroy the enemy in close combat.
(2) Absorbing reinforcing units to form a team of combined arms, and furnishing armored infantry companies to other units for the same purpose.
(3) Reducing and establishing obstacles, supported by tanks and other arms.
(4) Organizing and defending ground, supported by other arms.

c. Assignment. The armored infantry battalion is organic to the armored division.

4. ORGANIZATION

a. The armored infantry battalion is a tactically and logistically self-sufficient unit. It has a headquarters, headquarters and service company; four

rifle companies; and a medical detachment (fig. 1).

b. The headquarters, headquarters and service company has the battalion headquarters, company headquarters of headquarters and service company, battalion headquarters platoon, battalion reconnais-

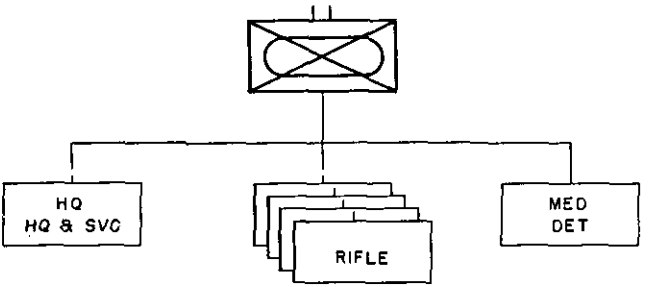


Figure 1. Armored infantry battalion.

sance platoon, battalion mortar platoon, counterfire squad, supply platoon, maintenance platoon, and battalion administrative and personnel section (fig. 2).

c. Each rifle company has a company headquarters, three rifle platoons, and a 60-mm mortar platoon (fig. 3).

Section II. CHARACTERISTICS

5. MOBILITY

Armored infantry is completely mobile both on and off the battlefield. Organic armored personnel carriers enable armored infantry units to accompany tank units on the battlefield, regardless of the speed

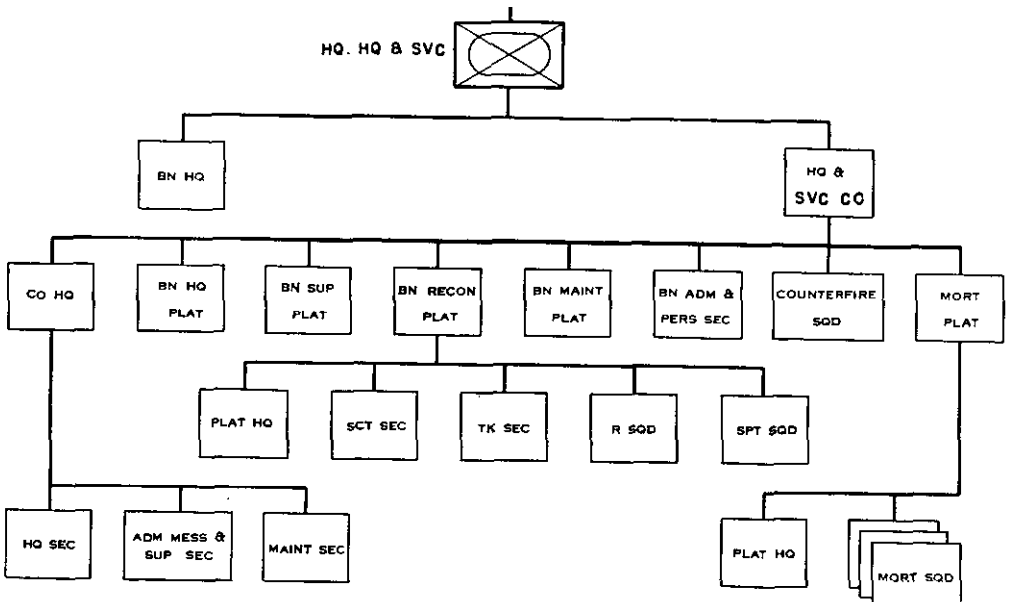


Figure 2. Headquarters, headquarters and service company, armored infantry battalion.

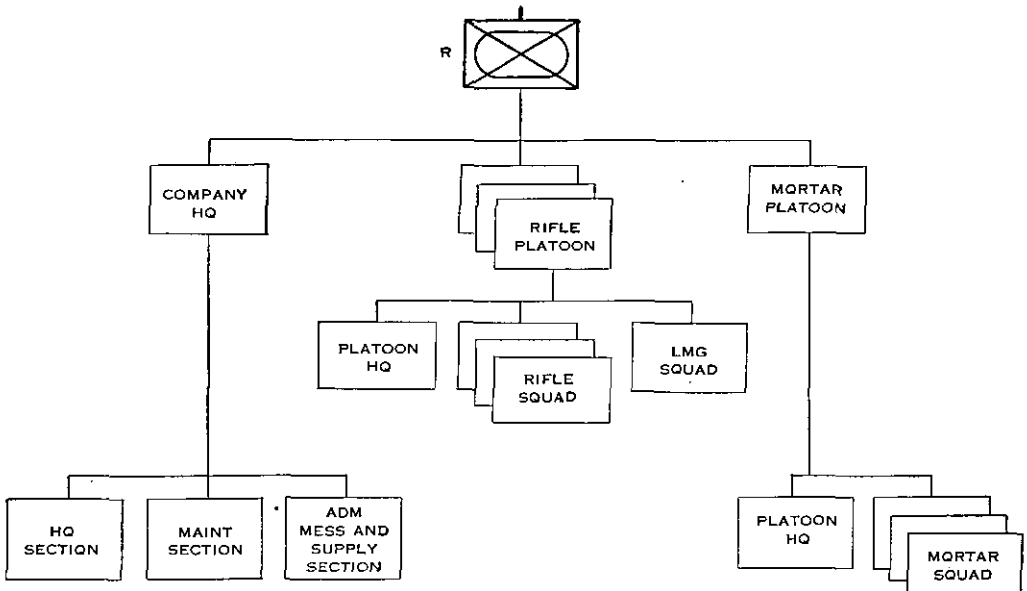


Figure 3. Armored infantry rifle company.

at which the tanks advance. Enough organic vehicles are provided to move simultaneously all personnel and equipment of the battalion.

6. ARMORED PROTECTION

Armored personnel carriers of the rifle squads are squad size, full track, completely inclosed armored vehicles. The carrier's armor gives protection from small-arms fire and shell fragments, but does not protect against antitank weapons.

7. FIRE POWER

The automatic weapons mounted on armored personnel carriers provide armored infantry units with great automatic weapon fire power. These weapons can be fired effectively even though the carrier is under enemy small arms or artillery fire. The carriers provide rapid and protective transportation for the crews, weapons, and ammunition.

8. FLEXIBILITY

a. Armored infantry units are flexible in their task organization and employment. Armored infantry rifle companies are organized and equipped to operate either as a part of their own battalion or attached to a tank battalion. This also applies to rifle platoons; they can operate with their own company or attached to a tank company. The armored infantry company and battalion can absorb attachments of tank and armored engineer units. When such attachments are made, the battalion commander forms his units into combined arms teams. The bat-

talion has enough wheeled cargo vehicles and maintenance elements to supply and maintain its organic units. Tank battalions may be reinforced with armored infantry rifle companies.

b. Armored infantry usually fights dismounted. It may advance in carriers or dismounted, or by a combination of these methods. The speed at which armored infantry can advance allows flexibility of employment.

c. Flexibility of task organization, employment, and methods of advance allows varied uses of armored infantry. Besides its ability to perform the ground and amphibious missions of any other infantry units, it normally supports tank units of the armored division in all phases of combat.

Section III. FUNDAMENTALS OF EMPLOYMENT

9. GENERAL

Tank-armored infantry combat is characterized by aggressiveness, speed, and violence. The tank-armored infantry team suddenly confronts the enemy with a demoralizing volume of mobile fire power, concentrated on his forces in a minimum of time.

10. SURPRISE

Surprise may be obtained by striking the enemy from an unexpected direction, or with unexpected strength, or at an unexpected time. Speed of concentration and of movement, and the use of covered approaches assist in gaining surprise. Personnel assist in obtaining surprise by careful driving of vehicles and by radio and fire discipline.

11. CONCENTRATION OF EFFORT

Concentrated fire power on the enemy obtains the maximum shock effect. Armored infantry units avoid piecemeal attacks or dividing forces to attack simultaneously at several separated points. Objectives are attacked and reduced one at a time. Dispersion results in a weak effort at all points and is used only against a weak or demoralized enemy. Even when dispersed, the battalion must be able to concentrate rapidly.

12. FIRE AND MANEUVER

Armored infantry units advance by fire and maneuver. Supporting fires are provided primarily by artillery, mortars, and carrier machine guns. Tanks and other armored infantry units may also support by fire. The maneuvering force is composed primarily of tank and armored infantry units but may include small armored engineer detachments. The enemy's fire is neutralized by supporting fires while the maneuvering force closes with the enemy and destroys him.

13. TEAMWORK

Teamwork is essential to successful combat. Each man needs to understand that he is part of his unit, which is an essential part of a larger team; each part helps to accomplish the common mission. The success of a tank-armored infantry team depends on teamwork at all levels of command. The tank crew, the armored infantry squad, and the driver of

the armored personnel carrier are all members of the team. Teamwork is obtained by combined training, by maneuvers, and by working together.

14. SECURITY

Security includes all measures taken by a command to protect itself against annoyance, surprise, and observation by the enemy. Security is not to be confused with caution or timidity; armored infantry units act aggressively, but provide for security at the same time. Continuous enforcement of security measures prevents surprise. Some measures that provide security are the use of natural and artificial obstacles, the use of security detachments, and constant observation and alertness.

Section IV. FACTORS AFFECTING EMPLOYMENT OF ARMORED PERSONNEL CARRIERS

15. INHERENT FACTORS

a. The armored personnel carrier's *weight* and *size* make its movement over unfavorable terrain difficult. Often it is necessary to reinforce bridges or to corduroy stretches of soft terrain to support carriers. For river crossings and amphibious landings, boats or rafts capable of carrying the carrier are needed.

b. The *silhouette* of the carrier makes it easy to detect, especially when moving in the open or on the skyline.

c. The *noise* of the carrier engine, tracks, and power train can often be heard for several miles—

particularly at night. Drivers are trained to drive as quietly as possible when close to the enemy, and rapid acceleration is avoided. Carrier noise can be partially covered by firing artillery, making it difficult for the enemy to determine the number of carriers or their exact direction of movement.

d. The *armor* restricts the carrier crew's field of view when all hatches and doors are closed.

16. OTHER FACTORS

Other factors to be considered in planning are listed below. They should not be allowed to interfere with the accomplishment of the mission. Aggressive leadership will overcome limitations imposed by them.

a. Terrain. The terrain has a decisive influence on operations. Some types of terrain favor the employment of tanks and carriers while others restrict their use. Tanks and armored personnel carriers operate best over rolling terrain where their maximum cross-country mobility can be used. Swamps, tundra, unfordable streams, dense woods, heavily eroded terrain, steep slopes, and vegetation that limits visibility, all restrict the movement of tanks and carriers.

b. Weather. Weather is another factor that affects the use of tanks and carriers. Weather affects terrain by changing the trafficability of the soil and the condition of streams. Rain often makes the earth so boggy that armored vehicles are limited to roads. Tanks and carriers can often cross deep snow where wheeled and half-track vehicles cannot. Ice makes roads and slopes slippery. Extreme heat and

humidity reduce the efficiency of personnel in armored personnel carriers and cause excessive engine heating. Even though adverse weather conditions increase the difficulties of employing tanks and armored personnel carriers, they may be used under such conditions to gain surprise.

c. Mines. The enemy's use of mines is always considered when planning an attack. Routes must be carefully reconnoitered. Because the best avenues of approach are the most likely to be mined, attacking over less desirable terrain should be considered. Often a thorough reconnaissance and some pioneer work make a surprise attack over poor terrain both practicable and effective.

d. Armored Personnel Carriers Use Large Volumes of Fuel and Lubricants. Continued operation of the carrier depends on efficient maintenance and adequate and well-timed resupply of fuel and lubricants. Lacking any one of these, the vehicle is soon immobilized.

e. Carriers Require Adequate and Continuous Maintenance. Commanders allow enough time for their personnel to perform necessary maintenance.

Section V. ORGANIZATION FOR COMBAT

17. GENERAL

a. The armored division is designed to perform missions that require great mobility and fire power. It should be given decisive missions. Even though capable of successfully engaging in all forms of combat, the armored division is particularly effective

in exploitation against hostile rear areas. It can perform infantry-type missions on a scale consistent with the infantry strength and equipment available in the division.

b. The armored division is organized (fig. 4) to provide maximum flexibility in the formation of combined arms teams. Flexibility is provided by the combat command separate battalion organization. The combat commands and reserve command are tactical headquarters directly under the division commander. They have no organic troops except a headquarters company. During operations, tank and armored infantry battalions are attached either to a combat command or to the reserve command. The ratio of tank battalions to armored infantry battalions varies with the mission, enemy situation, terrain, and division plan of action. Armored infantry battalions not attached to combat commands normally are attached to the reserve command. Light artillery battalions are placed in direct support of, or are attached to, the combat or reserve command. For details of organization of the armored division for combat see FM 17–100. See also figure 5.

18. REINFORCES BATTALIONS

a. Within the combat command, reinforced battalions are formed by attaching tank companies to armored infantry battalions, or by attaching armored infantry rifle companies to tank battalions. Attachments are made so that the resulting battalion team—reinforced battalion—contains the desired

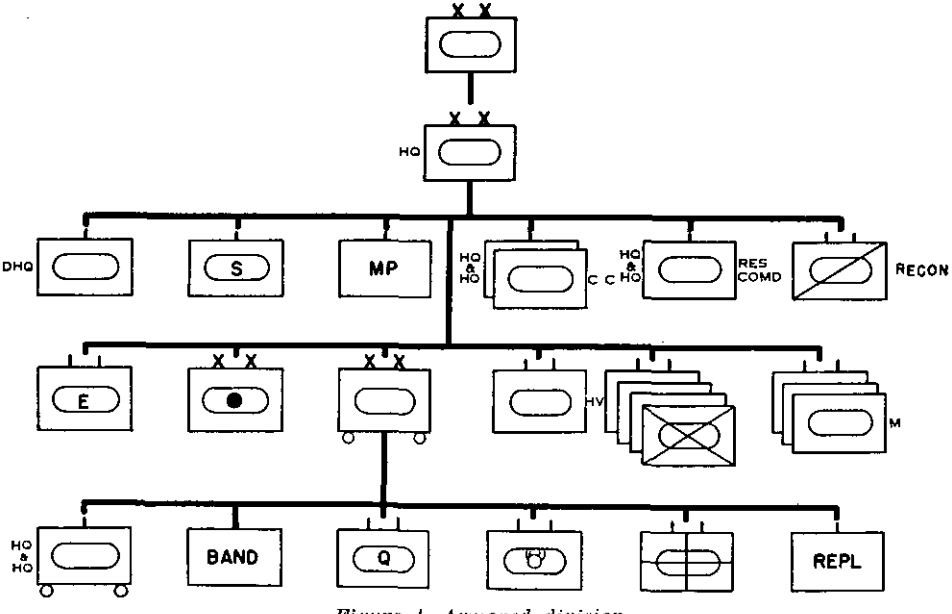


Figure 4. Armored division.

COMBAT COMMAND A

BRIG. GEN. ARMSTRONG COMMANDING

HQ & HQ CO CCA
1ST MEDIUM TK BN
2D MEDIUM TK BN
1ST ARMD INF BN
2D ARMD INF BN
CO A 1ST RECON BN
CO A 1ST ARMD ENGR BN
BR CO 1ST ARMD ENGR BN (— 1 PLAT)
BTRY A 1ST AAA AW BN
DET 1ST ARMD ORD BN
DET 1ST ARMD MED BN
DET 1ST MP CO
DET 1ST ARMD SIG CO
THREE (3) TACP 9TH TAF

DIVISION ARTY

COL. HILTON COMMANDING

HQ & HQ BTRY DIV ARTY
1ST ARMD FA GP (D S CCA)
1ST ARMD FA BN (105-MM)
2D ARMD FA BN (105-MM) ATCHD
3D ARMD FA BN (105-MM) (D S CCB)
4TH ARMD FA BN (155-MM) (G S)
1ST AAA AW BN (—)

DIVISION TRPS

HQ & HQ CO 1ST ARMD DIV
1ST RECON BN (— CO A)
1ST ARMD ENGR BN (—)
1ST MP CO (—)
1ST ARMD SIG CO (—)
TACP 9TH TAF

COMBAT COMMAND B

BRIG. GEN. BEROL COMMANDING

HQ & HQ CO CCB
4TH HV TK BN
3D MEDIUM TK BN
3D ARMD INF BN
CO B 1ST ARMD ENGR BN
PLAT BR CO 1ST ARMD ENGR BN
BTRY B 1ST AAA AW BN
DET 1ST ARMD ORD BN
DET 1ST ARMD MED BN
DET 1ST ARMD SIG CO
DET 1ST MP CO
TACP 9TH TAF

RESERVE COMMAND

COL. RAFFERTY COMMANDING

HQ & HQ RES COMD
4TH ARMD INF BN
DET 1ST ARMD SIG CO

DIVISION TRAINS

COL. WALKER COMMANDING

HQ & HQ DIV
DIV HQ (REAR)
1ST ARMD QM BN
1ST ARMD ORD BN (—)
1ST ARMD MED BN (—)
1ST ARMD REPL CO
BAND 1ST ARMD DIV
BTRY C 1ST AAA AW BN
DET 1ST ARMD SIG CO

Figure 5. Typical armored division task organization.

proportion of tanks and armored infantry required to accomplish the assigned mission.

b. A situation requiring a reinforced battalion heavy in armored infantry might indicate that the armored infantry battalion keep all four of its rifle companies and have one or more tank companies attached. Conversely, when the situation favors tank employment, a tank battalion may keep all of its tank companies and have one or more armored infantry rifle companies attached.

c. Battalions usually are retained as individual commands and are seldom attached to one another. They are commanded by the battalion commander to whom the attachments are made. Regardless of the ratio of tanks to armored infantry in a reinforced battalion, tanks and armored infantry are used in mutual support. Armored engineers are attached to or support both types of reinforced battalions as required. For details of organization for combat of the combat command and reserve command see FM 17–100. See also figure 6.

19. REINFORCED COMPANIES

a. It is normal for the armored infantry company to be employed as a reinforced company. However, it may be employed as part of a reinforced armored infantry battalion or a reinforced tank battalion. Within the reinforced armored infantry or tank battalion, reinforced companies are formed. The *reinforced armored infantry rifle company* is formed by attaching tank platoons or a tank company to an armored infantry rifle company. Conversely, the

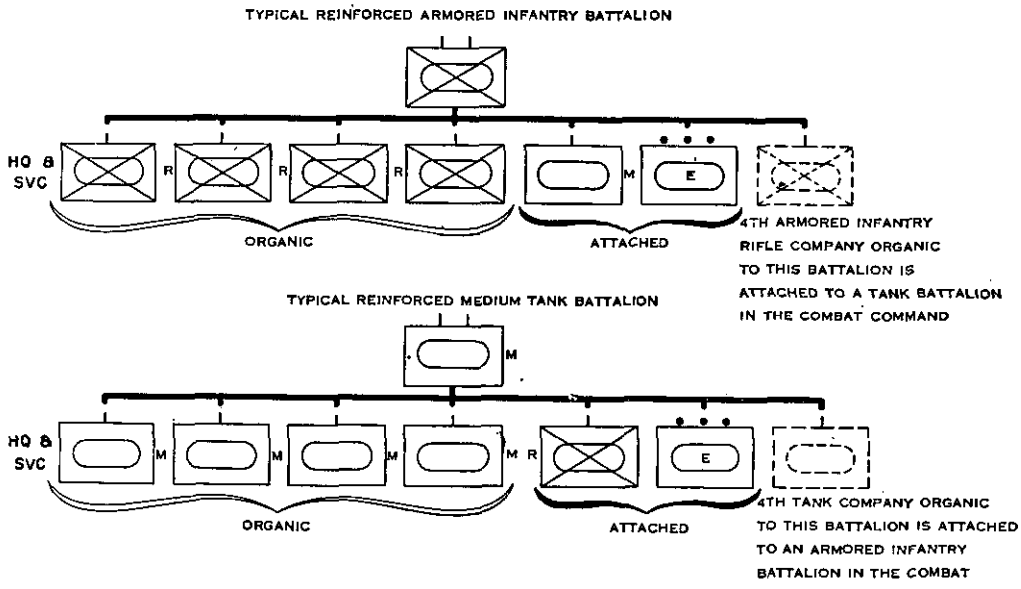


Figure 6. Typical reinforced battalions.

reinforced tank company is formed by attaching armored infantry rifle platoons or an armored infantry rifle company to a tank company.

b. The command of the team is vested in the senior officer present and is usually designated by attachment unless another is specifically designated to command. The team commander is the commander, either infantry or tank, to which the other unit is attached. However, when another is specifically designated to command, consideration is given to—

(1) Commander of the element of the team with the main mission.
(2) Commander of the element of the team having the preponderance of force.
(3) Relative experience and proven ability.
(4) Relative seniority in rank within grade.

The ratio of tanks to armored infantry in these reinforced companies is based on the mission, enemy situation, terrain, and battalion plan of action. Reinforced companies usually have only armored infantry and tank elements. Battalion mortar and reconnaissance platoons and attached armored engineer units are normally kept under battalion control and assist in accomplishing the battalion mission.

Section VI. COMMUNICATION

20. COMMUNICATION FACILTIES

Radio is the primary means of communication in the armored infantry battalion but is supplemented by all other possible means. Wire, messenger, visual, and sound communication supplement radio. Wire

is used to the maximum in sustained defense. Enough equipment is authorized to provide an efficient and adequate communication system within the battalion, and between the battalion and higher and adjacent units. The communication plan makes sure that failure of any one means will not result in the loss of communication. For details regarding the use of this equipment see FM 17–70.

21. COMMUNICATION PERSONNEL

Communication personnel in the armored infantry battalion include the battalion communication officer, the battalion communication chief, company communication sergeants, the battalion radio repairman, the company radio repairman, radio operators, code clerks, messengers, and the message center chief. See current tables of organization and equipment for detailed accounting of personnel.

22. RADIO NETS

The exact radio nets used within the armored infantry battalion depend on the tactical situation and the composition of the reinforced battalion. The composition of any battalion radio net is flexible. For more detail on radio nets see FM 17–70.

23. BATTALION COMMAND NETS

The battalion command nets, one mounted and one dismounted, are used for the tactical command and control of the battalion. They provide direct voice radio communication between the battalion

commander and his staff, the commanders of the reinforced tank and rifle companies, and the leaders of the mortar and reconnaissance platoons. Attached units operating directly under battalion control enter the battalion command nets. Vehicular voice radios are used in the mounted net. Portable radio sets and their vehicular adaptations are used in the dismounted net.

24. BATTALION HEADQUARTERS NET

The headquarters net includes the administrative, supply, and maintenance elements of the headquarters and service company. Rifle company and attached unit commanders use this net instead of the command net for transmitting administrative messages to battalion headquarters.

25. RECONNAISSANCE PLATOON NET

The reconnaissance platoon net provides a separate channel for this platoon to use. The platoon leader's vehicle is equipped with a dual receiver voice radio set. This set permits him to operate in the battalion command net and the reconnaissance platoon net. Enough radios are included to provide communication within the platoon and with adjacent units.

26. MORTAR PLATOON NETS

The mortar platoon nets provide separate channels for the command and fire control of the mortar platoon. Both vehicular and portable voice radio sets are used. The portable radio sets are used dur-

ing dismounted platoon action. The platoon leader's sets operate in these nets and in the battalion command net.

27. RADIO COMMUNICATION TO HIGHER HEADQUARTERS

The armored infantry battalion operates secondary stations in three combat command or reserve command nets. Two of these are command nets, one being a voice net and the other primarily a radiotelegraph net. The third net is the radiotelegraph administrative net of the combat command or reserve command.

28. WIRE COMMUNICATION

a. Enough wire and wire equipment are provided in the armored infantry battalion to permit the use of wire communication whenever the situation makes its installation practicable. The wire system is designed to support the commander's tactical plans. The scarcity of wire personnel in the armored infantry battalion requires additional personnel, trained in wire technique and designated to assist in the installation, operation, and maintenance of wire systems. See FM 17–70 for wire diagrams.

b. Switchboards and telephones are issued to the company. Enough field wire is available to establish an efficient command and fire control system. Wire is laid by hand or by mechanical dispensers. It is recovered whenever possible. The use of wire communication depends on the time available to install

it. In fast moving situations, the use of wire is limited. In sustained defensive situations, a complete wire system is installed for control of units and fire.

29. RIFLE COMPANY RADIO NETS

The rifle company command nets are used for the tactical and administrative command and control of the company. They provide communication between the company commander, platoon leaders, the artillery forward observer, and maintenance elements, and between each platoon leader and his squad leaders. Both vehicular and portable voice radio sets are provided. The portable radio voice sets are used for dismounted action. The company commander's radios operate in the company and the battalion command nets.

30. OTHER COMMUNICATION MEANS IN RIFLE COMPANY

a. Mounted and dismounted *messengers* operate between the company command post and the command post of battalion and platoons. Messenger communication is used among platoons. The company sends two messengers to the battalion command post; one of them returns to the company. This familiarizes messengers with the location of and routes to the command posts. An exchange of messengers is made when the battalion or company command post is moved. Motor messengers' may be mounted in company vehicles.

b. The use of *visual and sound* signals is limited by the nature of the signals themselves and by restrictions placed on their use for security reasons. They are a rapid means of communication but are easily misunderstood. Messages are necessarily simple. For the effective use of this means of communication, selected men are alerted to receive them. The meanings of visual and sound signals are prescribed in the signal operation instructions (SOI). Visual and sound signals are auxiliary means of communication.

(1) *Panels*, *smoke*, and *pyrotechnics* are used for identifying units and vehicles, and for sending short prearranged messages. Specified signals from the SOI are used or they may be improvised by the company commander after coordination. Messages prearranged in the SOI usually include calls for fire, calls for lifting fire, and notification of reaching objectives. Improvised lights and flags may be used for special purposes.

(2) *Sound* signals are used chiefly to spread an alarm, to attract attention, and to transmit short prearranged messages. The sound signals used to warn of air and chemical attacks are usually given in the SOI.

31. DUTIES OF COMPANY COMMUNICATION SERGEANT

The communication sergeant keeps the company commander informed and makes recommendations

on matters pertaining to signal communication. He supervises the installation, operation, and maintenance of the company communication system. He assists in the procurement of signal supplies for the company. He trains company communication personnel and other men designated by the company commander, and recommends some for training by battalion headquarters. The communication sergeant also supervises the maintenance of communication security in the company and dissemination of information contained in current signal orders, such as signal operation instructions (SOI) and standing signal instructions (SSI). He is trained as a communication chief.

32. THE BUGLER

The bugler is the principal assistant to the communication sergeant. His duties are assigned by the company commander and the communication sergeant. He drives the company commander's ¼-ton truck and is used as a messenger. In garrison, his primary duty is bugling.

Section VII. UTILIZATION OF FIRE POWER

33. VEHICULAR WEAPONS

a. The weapons mounted on armored personnel carriers provide great automatic fire power. These weapons may be fired from the carriers, from ground mounts, or a combination of both. Emphasis is placed on firing these guns from the carriers. Light machine gun squad members may be used to operate

as many of the vehicular weapons of the rifle platoons as the situation permits. When vehicles are halted, the drivers may be used to man one vehicular weapon on each carrier. Riflemen operate whatever vehicular armament is placed on ground mounts.

b. The use of the vehicular machine guns depends on the need for additional fire power to facilitate the accomplishment of the assigned mission. In employing the vehicular weapons consideration must be given to the number of personnel required for the gun crews, the need of rifle protection for each dismounted gun crew, the need of weapons for local defense of the vehicles, and the need for large amounts of ammunition consumed by these weapons. The carrier weapons can help develop a saturating volume of fire on the enemy's position and on dismounted attacking enemy.

34. FIRING POSITIONS FOR ARMORED PERSONNEL CARRIERS

a. Carriers used for fire support are placed in hull defiladed firing positions. A carrier is in hull defilade when the lowest portion of the carrier visible from the front is the machine gun mounted on the top of the carrier. The use of hull defilade provides maximum protection while engaging enemy targets with direct fire.

b. Firing positions in the defense are selected and classified as primary, alternate, and supplementary.

(1) A *primary* firing position offers the best conditions for carrying out the assigned mission.

(2) An *alternate* firing position is used for firing on primary targets when the primary position cannot be defended or becomes unsuitable for carrying out the assigned mission.

(3) A *supplementary* firing position is used for firing on secondary targets that cannot be reached from the primary or alternate positions.

c. Whenever possible, leaders select positions providing defilade and concealment for vehicles, weapons, and personnel not actively engaged with the enemy.

35. SUPPORTING WEAPONS AND ARTILLERY

a. Mission. The mission of all supporting weapons is to deliver fire to assist or protect a unit in combat.

b. Combat Control. The combat control of supporting weapons is classified as general support, direct support, and attachment.

(1) Supporting weapons are assigned tactical missions known as direct support, general support, reinforcing or general support/reinforcing. Attachment is not a tactical mission but is used to refer to a state of relationship between supporting unit to the supported unit. They usually continue in general support as long as this control can provide maximum support. The 81-mm mortar platoon is in general support when its fires are controlled by the battalion com-

mander. Division artillery battalions are in general support when their fire is controlled by the division artillery commander.

(2) Supporting units are considered to be in *direct support* when their unit commanders are given the responsibility for control of their fires in support of a specific combat unit. A supporting unit may be placed in direct support when its fires cannot be controlled effectively by the next higher commander, or when it becomes desirable to allot its fires exclusively to a specific combat unit. However, a unit in direct support would remain under the command of its own higher headquarters. While an artillery battalion in direct support executes fires for the combat command it supports, its fires may be massed elsewhere in an emergency.

(3) When a supporting unit is *attached* to a combat unit, command and control both pass to the commander of the supported unit. He becomes responsible for its tactical employment, control of fires, and combat supply. Attachment may be made when it becomes impracticable or undesirable to use the supporting unit in general support or in direct support.

c. 81-MM Mortar Platoon (par. 292). The procedure for requesting mortar fire is the same as that for requesting artillery fire (see *i* below).

d. Artillery Missions.

(1) To give close support to combat units.

(2) To fire long-range interdiction, harassing, and counterbattery fires.

e. Range of Artillery Pieces.

(1) 105-mm howitzer: 12,200 yards (effective bursting area, 15 yards by 50 yards).

(2) 155-mm howitzer: 16,400 yards (effective bursting area, 18 yards by 60 yards).

f. Artillery Capabilities. Artillery can deliver masses of long-range fire on enemy installations including defiladed areas and reverse slopes. Normal targets include personnel, light fortifications, tanks, vehicles, and crew-served weapons.

g. Forward observers for artillery. An artillery forward observer party normally goes forward with each rifle company to adjust artillery fire. The forward observer party is not attached to the rifle company.

h. Communications for Artillery Units. The communication facilities of the forward observers and liaison officer are radio and wire. Radio is the primary means of communication. The artillery installs, maintains, and operates its radio and wire communication.

i. Fire Requests.

(1) Requests for fire by the reinforced company normally are transmitted through the forward observer; requests may be transmitted through command channels if the forward observer cannot be contacted readily. Initial fire requests by other than a trained for-

ward observer include, as a minimum, the following elements in this sequence—

(*a*) The observer identifies himself usually by the use of a code word or words—UNION BAKER ONE.

(*b*) The observer alerts the fire control point by saying—FIRE MISSION.

(*c*) The azimuth is given to the target by the observer from his position; for example: AZIMUTH 2760.

(*d*) The target location is designated by giving first the azimuth from the observer to the target and then by giving a shift in yards from a known point to the target. Shift is given in the sequence: known point, deflection, and range such as FROM CR 695, LEFT 200, ADD 400; or by giving map coordinates of the target; or by requesting a marking round from which the observer can shift to the target (observer may say—MARK CENTER OF SECTOR or MARK BASE POINT).

(2) The nature of the target consists of a description of the enemy installation, personel, equipment, or activity that is observed; for example: MACHINE GUN.

(3) The observer's designation of control is expressed as WILL ADJUST or as FIRE FOR EFFECT if the observer believes the target is located accurately enough to be hit without adjustment.

(4) Example of an initial fire request is:
UNION BAKER ONE.
FIRE MISSION.
AZIMUTH 2760.
FROM CR 695, LEFT 200, ADD 400.
MACHINE GUN.
WILL ADJUST.

Section VIII. LIAISON

36. GENERAL

a. The purpose of liaison is to provide, by personal contact, the desired cooperation, exchange of information, and coordination of effort between and within units. The armored infantry battalion normally maintains liaison with the combat command to which it is attached and with adjacent units. Liaison officers are included in the armored infantry battalion headquarters.

b. Liaison may be accomplished either by personal conference between commanders (command liaison) or by a liaison officer or agent who represents his unit commander. Usually both methods are used concurrently. The liaison officer or agent operates from the headquarters to which he is sent and maintains contact with it and his own unit; unit commanders meet whenever the tactical situation requires.

c. The effectiveness of liaison depends greatly on the efficiency of the liaison officer and the cooperation of the headquarters to which he is sent. A liaison officer must be tireless, alert, tactful, energetic, and possessed of a thorough and practical knowledge of the employment of the armored infantry battalion.

He must understand the staff procedure of higher units, and the tactics and technique of other arms. He is provided with a radio-equipped vehicle and one or more enlisted assistants who can serve as messengers. Within the armored infantry battalion the messenger in company headquarters is used as a liaison agent at the battalion command post.

d. Only by frequent trips between his unit and the headquarters to which he is sent can the liaison officer (agent) do his job. The liaison officer has three missions:

(1) To keep his own unit commander closely informed of the existing tactical situation, the plans of the unit to which he is sent, and any changes in either. He must be particularly careful to keep his commander informed of plans of higher headquarters that will affect the employment of his own unit.

(2) To advise the commander of the unit to which he is sent about the plans and tactical situation of his own unit.

(3) To serve, in the absence of the battalion commander, as an adviser to the commander of the unit to which he is sent, concerning the employment of the armored infantry battalion.

e. Liaison officers make sure that the following information is exchanged:

(1) Strength of unit.

(2) Information on the operations of patrols and reconnaissance detachments.

(3) When the unit is in contact with the enemy, a summary of the situation.

(4) Disposition of the unit.
(5) Supply status of the unit, including shortages in supplies and equipment.
(6) Maintenance status of the unit.

f. The armored infantry battalion commander makes maximum use of the liaison officers of other units, and arranges for them to receive the maximum cooperation from his staff.

Section IX. ESTIMATE OF THE SITUATION AND TROOP LEADING PROCEDURE

37. ESTIMATE OF THE SITUATION

a. When a mission is assigned to an armored infantry unit commander, it requires a positive course of action. Adoption of the proper course of action is the result of a sound decision; and a sound decision is the result of an accurate estimate of the situation.

b. The estimate of the situation is an examination of all factors that will affect the accomplishment of the mission. The form prescribed for the estimate is arranged to facilitate logical reasoning and to insure that all pertinent factors are considered.

c. Commanders at all levels make estimates so that the correct decisions will be made. The estimate may be hasty or deliberate depending on the time available. Using a uniform thought sequence provides a mental check list to make sure, in the case of a hasty estimate, that the commander considers all elements of a situation in arriving at his decision.

d. For all commanders the estimate is a continuing process. With every change in the situation, each

must revise his estimate and decide either to continue his present course of action or adopt a new one. Their estimates are mental, but are as thorough as time permits.

38. STEPS IN THE ESTIMATE OF THE SITUATION

a. First, thoroughly understand the mission and intent of the higher commanders. These must be kept in mind at all times. If the commander needs additional information to thoroughly understand the mission, he should immediately get this information from the commander assigning the task. A personal conference is the best means of obtaining this information.

b. Next, consider all the factors affecting the employment of the unit, acting alone or reinforced. Concurrently, the commander decides what courses of action are open to him, and considers enemy capabilities that could interfere with the accomplishment of the mission.

c. After considering the enemy capabilities and the courses of action open to him, the commander next weighs each of his own plans against all of the enemy's possible reactions, and determines the probable effect of each enemy capability on the success of each of his plans of action.

d. The fourth step is a comparison and evaluation of the battalion commander's own plans. Each course of action open to the commander is analyzed for advantages and disadvantages. He then selects the plan that appears most likely to succeed. If two or more plans offer equal prospect of success, he selects the one that most favors future action.

e. The final step is the decision. It translates the course of action selected into a concise statement of what the battalion will do, including answers to the questions—*who*, *what*, *when*, *where*, *how*, and *why*.

39. TROOP LEADING PROCEDURE IN ATTACK

When the platoon leader, company commander, or battalion commander receives the plan of attack or attack order, he follows a definite troop leading procedure.

a. He makes a map reconnaissance and, if possible, a personal reconnaissance of the routes to the attack position and line of departure.

(1) He studies the ground over which he is to attack, from both an observation point and a liaison plane if possible.

(2) He causes as many lower unit commanders as practicable to make a personal reconnaissance.

(3) He contacts tank, infantry and reconnaissance units in the zone and obtains all information they have about the terrain and the enemy.

b. He initiates liaison and arranges for passage through friendly forces.

c. From information gained through reconnaissance and liaison, the commander makes his estimate of the situation and arrives at his decision.

d. After making his decision he plans his attack. Since the unit may be committed in any one of several places, the plan must be developed to include—

(1) Measures to be taken against all probable enemy maneuvers.

(2) Alternate routes in case weather conditions or enemy maneuvers prohibit the use of selected routes.

(3) Methods and means for breaching obstacles, either natural or man-made. This includes the study of aerial photos and maps to determine obstacles, then insuring that adequate engineers and equipment are present and located where they can most efficiently eliminate the obstacles.

e. Finally, he issues the attack order and supervises its execution.

40. TROOP LEADING PROCEDURE IN DEFENSE

Following the receipt of the defense order, the commander's actions follow a general sequence. This sequence helps platoon leaders, and company and battalion commanders remember essential actions, makes maximum use of the time available, and helps him coordinate the actions of leaders. Of the time available the commander allows enough for his lower unit commanders to perform their duties and for the men to organize the areas. Plans are made and orders issued so that there is minimum delay in starting the organization of the ground. After making his estimate of the situation, the commander follows this troop leading procedure:

a. He Makes a Tentative Plan of Defense. This gives him a basis for later action and allows him to orient the leaders of company and supporting units early so they can get started before the order is issued. This tentative plan includes the general

disposition and mission of troops and weapons within the defense area.

b. He Plans the Movement of Troops and the Issuance of His Order. Early planning and orders by the commander make possible an orderly and timely move by the troops to the defensive position. This movement normally is controlled by his executive officer in a company or battalion and by the platoon sergeant in a platoon. He plans where, when, and to whom his order is to be given.

(1) He selects an observation point from which all, or at least the most critical portion, of the defense area can be observed. He designates this point as the place where he will issue the order.

(2) He designates the time he will give the order. In selecting the time he considers the total time available, the time necessary for adequate reconnaissance by unit leaders, and the time required for the actual preparation of the position. Time in which to prepare positions is allotted. This may preclude the making of a detailed reconnaissance by the commander.

(3) He designates the persons to receive the defense order. This includes his lower unit commanders and may include others, like the artillery and mortar forward observers, communication officer (or sergeant), and the mortar platoon leader.

c. He Plans His Reconnaissance. Before starting his terrain reconnaissance, the commander makes a brief map reconnaissance, determines the localities

to be visited, and selects the route. His reconnaissance is as detailed as time permits, and major attention is given to the most critical localities. He announces his route so that he can be located quickly.

d. He Arranges Coordination with Other Commanders. Adjacent and supporting unit commanders usually are present at the time the commander receives the defense order. Arrangements for the necessary coordination are made with these commanders at this time.

e. He Makes His Reconnaissance. The commander leaves the area where he received the higher commander's order and goes on his personal reconnaissance of the ground. The battalion and company commanders are often accompanied by the mortar platoon leader and such other personnel as desired. The commander first positively identifies his area.

(1) He studies the immediate foreground of the position to determine—
   (*a*) Areas which afford the enemy covered approaches to the position.
   (*b*) Natural obstacles and exposed terrain over which the enemy must pass.
   (*c*) Commanding features of the terrain which may be occupied as hostile observation posts and areas within the defensive position which are exposed to hostile observation.

(2) He studies the ground in detail within the defense area to determine—
   (*a*) Coordination with adjacent units and with supporting weapons to be placed within the area.

(*b*) Locations for subordinate defense areas.
(*c*) Position areas (firing positions) for attached tanks.
(*d*) Locations for the 60-mm (81-mm) mortars.
(*e*) Position areas (positions) for vehicular weapons to be coordinated in the defense.
(*f*) Routes of communication and supply.
(*g*) Location of the observation post.
(*h*) Location of the command post.
(*i*) Position areas (positions) for carriers not used for CP or in fire support roles.

(3) Because of time limitations, the commander may have to issue his order without making a detailed ground reconnaissance. In such cases his order may be issued from the best vantage point available, or be based entirely on a map study. Adjustments to improve the coordination and tactical organization are made as soon as possible.

f. He Completes His Plan and Issues His Order. Upon completing the reconnaissance, he goes to the point previously designated to issue his order. He makes such changes in his tentative plan as required by his ground reconnaissance and recommended by his subordinates. He then issues the defense order.

g. He Informs the Higher Commander of His Plan of Defense.

h. He Supervises the Work. After the order has been issued, the commander supervises the detailed organization of the defense area.

CHAPTER 2

MARCHES, BIVOUACS, AND ASSEMBLY AREAS

Section I. MARCHES

41. GENERAL

a. Training in marches is one of the most important phases of company and battalion training. The successful operation of an armored infantry battalion depends on the efficient execution of marches. Armored infantry units spend much time in the execution of tactical and administrative marches. March training may be concurrent with other training and should be conducted throughout all phases of training.

b. The battalion commander's *objective* in marching is to move from one location to another, arriving at the appointed time and place with all personnel and equipment in the best possible condition and prepared to accomplish the battalion's mission. This requires thorough planning and constant supervision during the execution of the movement. The procedure used in a movement of troops in column is known as march technique.

42. EXPLANATION OF TERMS

a. Arrival Time. The time the head of a column, or head of an element thereof, reaches a given point.

b. Clearance Time. The time the tail of a column, or unit in the column, passes a given point.

c. Close Column. A formation in which vehicles are separated by the minimum safe driving distances.

d. Control Vehicle. The vehicle that travels at the head of a column, or elements of a column, and sets the rate of march.

e. Density. The average number of vehicles per unit length of roadway.

f. Distance. The space from the rear of one vehicle (including towed load if any) to the front of the next vehicle in the column; or the space from the rear element of a march unit or serial to the leading element of the following march unit or serial.

g. Guide. A person who leads or directs a unit or vehicle into or out of a selected area, or over a predetermined route.

h. Infiltrating Column. A column in which vehicles are dispatched individually or in small groups at irregular intervals over a marked route with a fixed density.

i. Initial Point (IP). A point where a foot march or motor movement is formed, without halting, by the successive arrival of the units that constitute the column.

j. March Discipline. Observance and enforcement of the rules that govern a unit on the march, especially those involving formations, distances, speeds, and use of cover.

k. March Graph. Time-space diagram used in planning and controlling marches, both vehicle and foot, and in preparing or checking the march table.

l. March Order. An order issued by a commander to give instructions for a march.

m. March Table. A list showing the general organization and the time and space schedule for a march movement, usually published as an annex to the march order.

n. March unit. A tactical unit, or group of units, that moves or halts at the order of a single commander. A company, battery, or similar organization normally forms the march unit.

o. Marker. A person, flag, stake, or some other object posted at a point to show the location of a unit, a direction or procedure to be followed, a danger point, an obstacle, or a boundary.

p. Open Column. A formation in which distances between vehicles are increased to provide greater dispersion. Usually a fixed density is specified; for example, 10, 15, or 20 vehicles per mile.

q. Rate of March. The average marching speed per hour, including short periodic halts.

r. Regulating Point (RP). A point where an incoming serial is released from column control and leaves the march column to go into a specific area.

s. Road Space. The distance from head to tail of a column when in a prescribed formation on a road; the length of road occupied by a column or part of a column.

t. Serial. One or more march units, preferably with the same march characteristics, placed under one commander for march control.

u. Strip Map. A sketch or map, either schematic or drawn to scale, showing the route to be followed

and other pertinent information like towns, crossroads, bridges, and rail crossings.

v. Time Length. The time required for a column or march unit to pass a given point.

w. Time Interval (*time gap*). The interval of time between successive vehicles, march units, or columns as they move past a given point. The time is measured from the instant the tail of one unit clears the point to the instant the head of the next unit reaches it.

43. TYPES OF MARCHES

All marches of armored infantry units may be classified as administrative marches or as tactical marches.

a. An *administrative march* is a march in which the primary consideration in the arrangement of troops and vehicles is the comfort and convenience of personnel, and their rapid transit. This type of march is made when no enemy activity or interference is expected; emphasis can be placed on speed of movement and on conserving the energy of troops. Whenever practicable, columns are composed of units having the same rate of march, and the integrity of units is maintained. Separate roads are assigned to columns having different rates of march, or their movements by the same route are echeloned with respect to time.

b. Units and vehicles on a *tactical march* are arranged in the column to aid in their employment against the enemy. The greatest influence on dispositions for the tactical march is the composition and closeness of hostile ground forces and aviation.

When hostile forces include armored elements, such elements may make contact from any direction not protected by friendly forces or terrain barriers.

44. TYPES OF MARCH COLUMNS

The reinforced armored infantry battalion normally uses one of three types of march columns—open column, close column, or infiltrating column.

a. The *open column* formation is particularly applicable to tactical moves made during daylight without air cover; such moves are made when time is so important that lack of secrecy and the possibility of some losses from air attack are justified. Enough dispersion is made to prevent one shell or bomb from damaging more than one vehicle. Open column may also be used to advantage when moving with driving lights at night, or with blackout lights on moonlight nights on good roads. A fixed density, or a given distance between vehicles, is prescribed when this formation is used. The open column formation provides the best compromise between the requirements of a short timelength of the column and wide dispersion of vehicles within the column.

b. The *close column* formation is used when a large volume of traffic must be moved in the shortest time. This formation is also ueful for night moves under blackout conditions, particularly over poorly marked routes, when distances between vehicles must be short enough for drivers to maintain visual contact with the preceding vehicles. Normally, the close column formation during daylight is not justified except when the column has air cover or is other-

wise secure from hostile air attack. This method of marching permits utilization of the maximum traffic capacity of the roads. However, it does not provide dispersion against enemy observation and attack, and traffic bottlenecks are likely to occur at critical points along the route.

c. An *infiltrating column* may be used when enough time and road space are available and secrecy, deception, and dispersion are desired. This formation provides the best passive protection from air observation and attack. Because of extended distance between vehicles, column control is difficult and routes must be carefully marked in advance to prevent drivers from becoming lost.

45. PLANNING THE MARCH

Adequate planning insures the successful conduct of a march. Items included in this planning are—

a. Routes.
b. Route reconnaissance.
c. Advance parties.
d. Guides and markers.
e. Formation for the march.
f. Designation of initial point (or points) and regulating point (or points) for battalion units.
g. Rate of march.
h. Distance.
i. Phase lines and other control points.
j. Halts.
k. Security measures to be adopted.
l. Methods of resupply.
m. Trains.

46. ROUTES OF MARCH

Higher headquarters usually designate a route of march for the reinforced armored infantry battalion. The battalion may be given a zone of advance; in this case the battalion commander selects his route and alternate routes. Higher headquarters may give the battalion a road priority for its march, and the battalion commander follows this schedule. When the battalion is operating alone, the battalion commander selects the route.

47. WARNING ORDERS FOR MARCHES

A warning order, which is issued before the detailed march order, is used to alert troops and allow them time to prepare for the march. When possible, a warning order includes the nature of the movement, the general purpose of the operation, the time of departure, and the destination. Warning orders make sure that the battalion will be ready to start on time, and that commanders will know how much time they have to complete maintenance and to rest personnel. Where pertinent, instructions to the advance party should be included.

48. ROUTE RECONNAISSANCE

a. After receiving the warning order for a movement, the battalion commander obtains all available information about the route of march. His sources of information include reports from higher headquarters, and map, air, and ground reconnaissance. A combination of air and ground reconnaissance is

the most thorough and reliable. The route reconnaissance provides information concerning—

(1) Bridges, including the capacity, location, and by-passes.
(2) Fords, including the location, depth of water, condition of bottom, banks, and approaches.
(3) Any other information of the terrain that may be useful to the commander.
(4) Roads, including the type, condition, and width.

b. The battalion commander may be called on to perform the route reconnaissance for a larger command. For this purpose he may use the battalion reconnaissance platoon. However, it is normal for him to receive most of the information from reconnaissance conducted by other agencies.

49. FORMATION FOR THE MARCH

a. In a tactical march, the formation is governed by the tactical situation. Troops are arranged in the expected order of use, or in the order that they are to enter a new assembly area or attack position.

b. In an administrative march the formation is normally governed by the position of the units in the old bivouac area. Companies are rotated within the column daily. A reinforced battalion ordinarily marches as a serial, each of its companies being a march unit. The unit farthest from the IP normally moves out first, followed by the next farthest unit, which ties in at the tail of the column as the leading unit moves by. The units may also leave

the old bivouac area in an order most convenient for them to enter the new bivouac. Normally the battalion headquarters are near the center of the column, and service elements are at the rear. See figure 7.

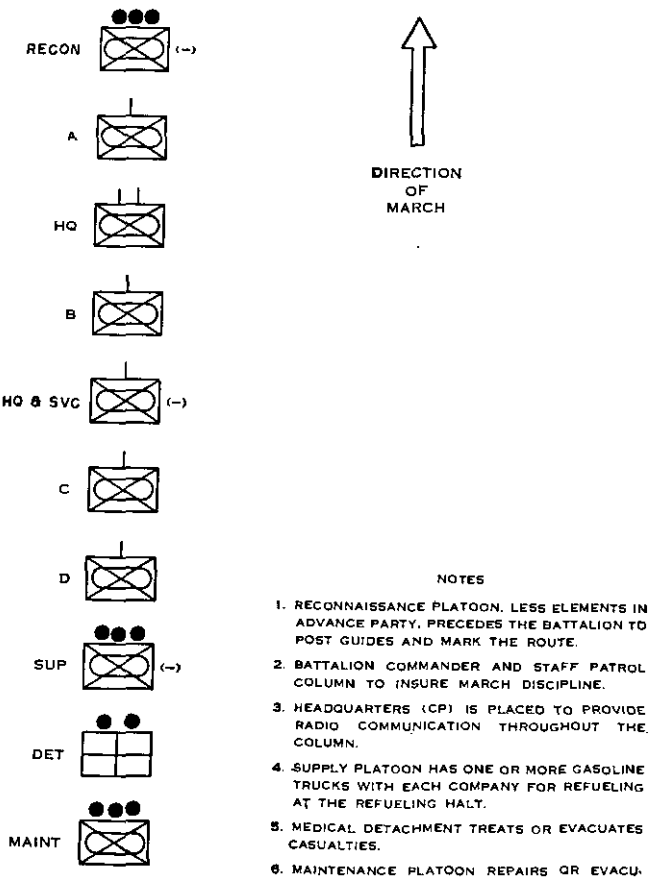


Figure 7. Order of march for an administrative march.

50. INITIAL POINT

When the battalion is marching as part of a larger unit, the initial point for the larger unit is designated by the commander of that unit. The battalion commander also designates another initial point, short of the larger unit IP, and sets a time for the battalion to reach and clear it. The battalion IP is the point where battalion units form a column or serial. It must be far enough from the assembly or bivouac area for the column to gain the specified rate of march by the time it reaches the larger unit's initial point, and with the prescribed time interval and distances. To do this the battalion commander has a reconnaissance made of the route from the battalion IP to the larger unit IP. This route is measured, and the time it takes the leading vehicle to travel this distance is determined. This time is subtracted from the time the leading vehicle must pass the larger unit IP to determine the starting time from the battalion IP. If other units are to precede the battalion to the larger unit IP, the battalion commander establishes liaison with those units and is careful not to block their movement. While planning estimates may have to be changed before execution, final corrections can easily be made through liaison.

51. RATE OF MARCH

a. The rate of march for tank and armored carrier columns, or for mixed columns of tanks, carriers, and wheeled vehicles is 12 to 20 miles per hour during

daylight, and 8 to 10 miles per hour during darkness on good roads.

b. The factors that determine the exact rate of march are—

(1) Grades, sharp turns, cities, towns, and other bottlenecks along the route.
(2) Surface conditions such as dust, ice, mud, and snow.
(3) Condition of vehicles.
(4) Condition of drivers and crews.
(5) State of march training and degree of experience of individuals and units.
(6) Weather conditions that affect visibility.
(7) Light conditions that affect visibility.

c. Rates of 15 miles per hour or better for sustained periods can be attained only under the best conditions. To attain this speed, routes of march must be comparatively level and should avoid cities, towns, sharp turns, and other bottlenecks; the road should be hard-surfaced and free from ice and snow; tanks, carriers, and other vehicles must be in good condition and should not have been subjected to long periods of operation; and crews, particularly drivers, should be rested and at their peak of alertness.

52. MARCH DISTANCES

During daylight the normal distance between vehicles in the column in 50 yards. At night the normal distance between vehicles is that at which each driver can maintain visual contact with the preceding vehicle. The distance between march units in the column, expressed as time interval, may be one minute or as directed.

53. PHASE LINES

Phase lines are clearly distinguishable terrain features along the route of march; for example, streams, crossroads, and well-defined ridges. They are used to control the movement of two or more columns, including the flank guard units. When the heads of columns, usually the control vehicles, reach phase lines, they report their crossing and continue the march; they halt at these lines only when ordered to do so by higher headquarters.

54. HALTS ON THE MARCH

a. Units on the march normally make scheduled 10 minute halts each hour or 15 minute halts every two hours. It is advisable to schedule a 10-minute halt at the end of the first 50 minutes of the march. At all scheduled halts, all march units and serials halt simultaneously at the specified time; they make no attempt to close up gaps in the column. Vehicular crews perform their scheduled at-the-halt maintenance operations.

b. At halts, the march unit and serial commanders make sure that—

(1) Traffic control personnel are posted at the front and rear of each march unit.
(2) Distance between vehicles is correct. (Units do not normally close up at the halt.)
(3) All vehicles and personnel remain on the right side of the road and keep the traveled portion of the road clear at all times.
(4) Ground and air security are maintained.
(5) Crew maintenance is performed by the crew of each vehicle.

(6) Vehicle personnel are alert to receive and relay signals for the resumption of the march. This is particularly important at night.

(7) Maintenance personnel are checking the mechanical condition of all vehicles in the unit.

(8) All vehicles move out at the same time from the halt.

c. Halts for refueling are scheduled in advance to allow march unit commanders to make definite plans for refueling. Armored infantry battalions normally require refueling about every 75 miles (par. 79).

d. During tactical marches when contact with the enemy is imminent, or during prolonged halts, it is often desirable to shorten the column. When the terrain permits, units of the battalion do this by moving into assembly areas on each side of the road. This is called coiling up (fig. 8). In an administrative march, the units are placed so that they can easily move back onto the road, faced in the correct direction to resume the march. If tactical considerations govern, companies or reinforced companies remain prepared to move in the direction of the expected action.

55. SECURITY

a. Armored units on a tactical march may be preceded by a *covering force.* The mission of such a force is the early development of the situation, including crushing resistance when possible or the seizure of a key terrain feature. Such a force pre-

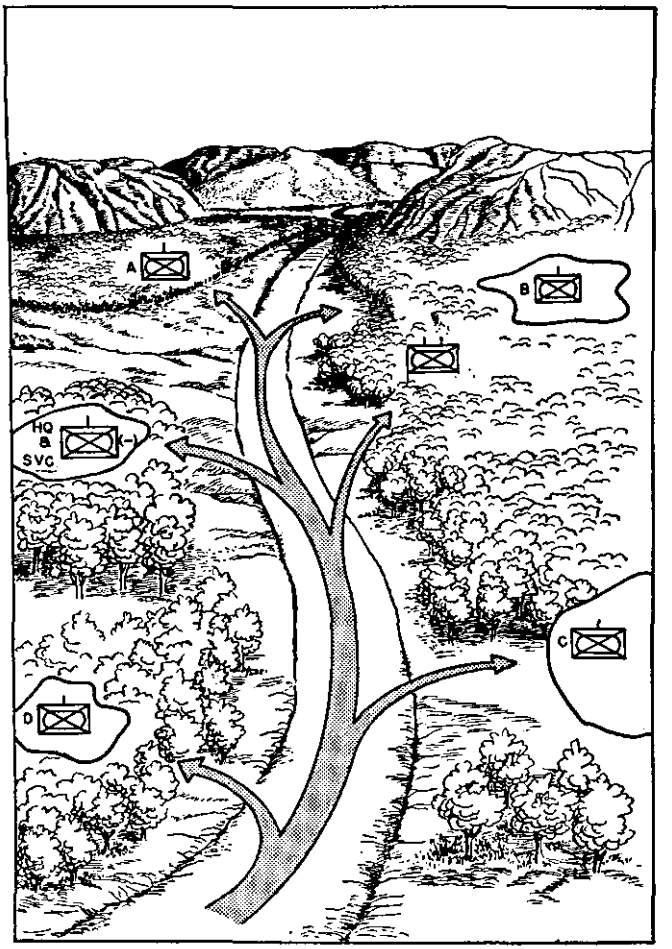


Figure 8. Coiling up.

cedes the column advance guard and provides its own security. It normally advances by bounds.

b. Armored units on a tactical march are preceded by an *advance guard* whose mission is to prevent delay of the main body and to protect the main body against surprise attack. The size, composition, and disposition of the advance guard varies with the mission, terrain, and tactical situation.

c. Armored units on a tactical march protect their flanks by *flank guards*, especially when no protection is provided by adjacent friendly troops. Flank guards cover routes of approach that might be used by hostile forces to attack the flanks of the column. A flank guard may travel on a route parallel to that of the main body, and be distributed in depth to ward off or give warning of enemy attacks; or echelons of the flank guard may move by bounds from one position to another, occupying key terrain features from which good observation is possible.

d. Armored units on a tactical march employ a *rear guard*, which follows and protects the main body on the march. A rear guard is used to defeat or delay hostile forces attacking the rear, to protect the trains, and to collect stragglers.

e. An observer in a *liaison plane* is one of the best sources of information for the armored unit commander on the march.

f. During the march and at the halt, the armored unit provides its own *security against air attack.* It does this by placing an air sentry on each vehicle, and by continuous manning of antiaircraft guns. Passive security measures against air attack include the dispersion of vehicles and the maintenance of

proper distances, both during the movement and at the halt. In maintaining distances, vehicles are not allowed to close up at halts, obstacles, and traffic bottlenecks. Commanders and staff officers, while moving along the column, constantly check these security measures.

g. Strict observance of *communication security* is necessary to insure adequate protection against enemy communication intelligence activities such as radio interception, position finding, traffic analysis, and crypto-analysis.

56. MARCH ORDERS

If the armored infantry battalion is marching as part of a larger unit, the battalion march order is based on the march order of the higher headquarters. The order includes these items that are not covered in unit standing operating procedure—

a. Destination.
b. Route.
c. Rate of march (may be SOP).
d. Order of march.
e. Location of the initial point.
f. Time of passing the initial point.
g. Security (may be SOP).
h. Scheduled halts (may be SOP).
i. Distances between vehicles and time interval between march units (may be SOP).
j. Communication.
k. Location of the command post during the march (may be SOP).
l. Traffic control measures (may be SOP).
m. Location of the regulating point.

n. Time each march unit is to clear the regulating point and any other critical points along the route of march.

57. CONTROL AND SUPERVISION OF THE MARCH

a. Training and discipline are the greatest factors in the control of an armored infantry battalion on the march. Detailed supervision by the battalion staff is necessary to make sure that the column is formed according to plan. Means of controlling the battalion (operating separately or reinforced) on the march are—

(1) Detailed supervision.
(2) A staff officer at the battalion IP, critical points, and the RP (to check arrival of lower units, order of march, rates of march, time length of the column, clearance times, and march discipline).
(3) A control vehicle at the head of each march unit.
(4) Well-marked routes (guides and markers).
(5) Phase lines and check points.
(6) Radio (if permitted by security).
(7) Hand signals.

b. The battalion commander and designated members of his staff supervise the movement of the reinforced battalion on the march. Items to check are the presence of all vehicles in the column, their condition, distances between march units, speed, and the general conduct of the march units. Necessary corrections are made on the spot. All officers and noncommissioned officers of the battalion are responsible for supervising the march column.

58. COMMUNICATION ON THE MARCH

When communication security permits, radio is the principal means of communication during a march. Visual signals—particularly arm-and-hand signals and flashlight signals—are used extensively for column and vehicle control. Messengers are used between units in the column. However, because of the difficulties of passing tanks, carriers, and other heavy vehicles, messengers are generally used only for carrying maps, overlays, and similar items. When marching as part of a larger unit, the battalion maintains liaison with the preceding serial. A liaison officer or agent travels with the preceding serial and keeps his commander informed as to the preceding serial's time of departure, time of clearing the IP, and time of reaching the RP and intermediate control points. At prescribed intervals he informs the battalion commander of the location of the tail of the preceding serial, and gives him early warning of any unscheduled halt and the reason for it as soon as it is determined. Light aircraft may be provided to supplement organic means of communication during the march.

59. NIGHT MARCHES

a. In the combat zone, most marches near the forward areas are conducted during the hours of darkness. Blackout lights may be prohibited. Practice night marches over unfamiliar terrain are the best training for night marching.

b. Night marching requires detailed planning. Route reconnaissance and road guides and markers

assume greater importance. Darkness increases the difficulty of control, and requires decreased speed, decreased distance, and increased reconnaissance and security. During halts in a night march, either the commander or the assistant driver of each vehicle dismounts and contacts the preceding vehicle in the column to keep contact. Officers and noncommissioned officers make sure that no driver or crew member has fallen asleep during the halt.

c. The distance between vehicles on night marches varies with the terrain, weather, and visibility. As a guide, this distance is the maximum at which the driver can see the blackout tail light of the preceding vehicle. Distances may be increased during bright moonlight and on smooth, straight, open roads, whereas hilly and rough terrain, bad roads, rain, fog, dust, or complete darkness force the column to close up to maintain contact.

60. COMPANY MARCHING AS PART OF A BATTALION

a. When marching as part of a larger unit, the company commander checks the column at irregular intervals and corrects any violation of march discipline. The company's leading vehicle acts as a control vehicle and an officer rides in it to make sure that the prescribed speed is maintained as closely as traffic and road conditions permit. This vehicle may be preceded by another officer or noncommissioned officer in a ¼-ton truck who serves as the company pathfinder or navigator. The mortar platoon's ¼-ton truck may be used for this purpose. The officer

in the control vehicle reports to higher headquarters as required when phase lines and other designated points are reached and cleared.

b. When unscheduled halts occur, the company commander immediately goes forward as far as the head of the next company to determine the cause and probable duration of the halt. Within the company, each platoon leader goes to the head of the preceding platoon, and each vehicle commander checks the vehicle directly ahead of him. At night these precautions prevent one disabled vehicle or sleeping driver from holding up the whole column.

61. COMPANY MARCHING ALONE

When a company is assigned a mission to march separately, the company commander's responsibilities are similar to those described for the battalion commander. The company commander makes a map study of his route and supplements it with a route reconnaissance. He issues a warning order to his leaders to prepare for the march. He selects the IP, formation for the march, halts, distance between vehicles, and arranges for route marking and road guides.

62. DISPOSITION OF COMPANY, ADMINISTRATIVE, AND SUPPLY VEHICLES

The maintenance section marches at the rear of the company. Any vehicle falling out of the column is promptly moved to the side of the road for immediate repair. Vehicles not repairable by the company are left to be picked up and repaired by the

battalion maintenance platoon. Kitchen trucks usually march with the battalion field train, but may remain with the company when combat is not imminent.

63. COMPANY MARCH ORDER

The company commander bases his plans and preparations for the march on the battalion march order. Company march orders include—

a. Destination.
b. Route.
c. Route reconnaissance.
d. Advance parties.
e. Guides and markers.
f. Rate of march.
g. Formation for the march.
h. Initial point.
i. Regulating point.
j. Time.
k. Details of ground and air alert guards.
l. Scheduled halts.
m. Distances.
n. Communication.
o. Methods of resupply.
p. Trains.
q. Strip map or sketch.

64. DISMOUNTED MARCHES

Armored infantry units march mounted unless forced by terrain or enemy action to dismount.

Fundamentals contained in FM's 7–10, 7–20, and 21–18 pertaining to dismounted marches are applicable to dismounted armored infantry units. Unless otherwise stated, all marches for armored infantry units are mounted marches.

Section II. BIVOUACS

65. GENERAL

A bivouac area is an area in the field where troops rest and prepare for further movement. In a bivouac area the possibility of contact with the enemy, except by air, is remote. Troops are not usually expected to be committed to battle from this position.

66. CHARACTERISTICS OF THE BIVOUAC AREA

a. Characteristics considered *essential* in a bivouac area include—concealment from air and ground observation; enough space to permit normal dispersion of vehicles (fig. 9); and firm, all-weather standing for all types of vehicles. It should have ground smooth enough to permit easy vehicular maintenance and movement of supply and other vehicles through the area. There should be enough entrances and exits from a good road net to permit rapid movement in any direction. Entrances should be good enough to allow vehicles to leave the road and occupy the bivouac area without greatly reducing speed. The area should have natural terrain protection.

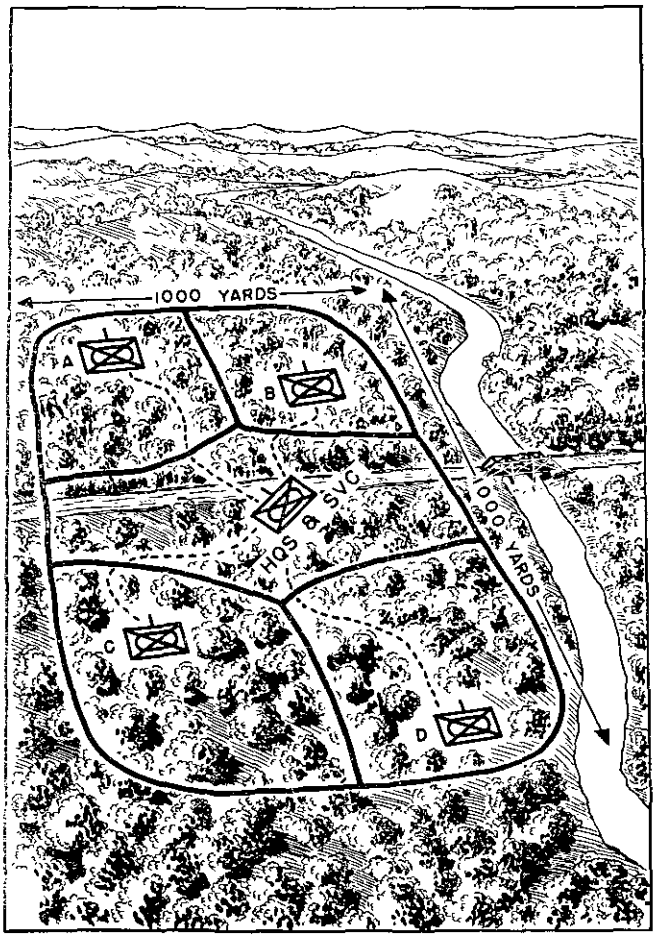


Figure 9. Size of bivouac area for armored infantry company and battalion.

b. Characteristics that are not essential but are *desirable* include—

(1) An adequate water supply within or near the area.
(2) Suitable shelter for personnel.
(3) Proximity to the services required for maintenance and rehabilitation.

67. ADVANCE PARTY

a. An armored infantry battalion sends an advance party to a new bivouac area as soon as possible. When the battalion is a part of a larger command, this party accompanies the advance party of the larger command. Operations of the advance party are normally covered in the unit standing operating procedure. The party is composed of representatives of all battalion units with its size dictated by its ability to reconnoiter the area, to provide any needed security, and to make necessary improvements on entrances to, and routes within, the bivouac area. The advance party commander should be informed of the route, the order of march, and the estimated arrival time of the main body.

b. Instructions to the advance party include information concerning the approximate length of time the party will be out and the individual or special equipment to be taken. The standing operating procedure ordinarily specifies the special pioneer equipment to be carried.

68. ORGANIZATION OF BIVOUAC AREA

a. If a battalion advance party commander determines that the area is unsatisfactory, he immediately

notifies the advance party commander of the higher headquarters and requests a different area. If a change cannot be made in the time available, the battalion is put under cover as soon as it arrives, and adjustments are made later.

b. If a battalion is part of a larger command, the advance party commander of the larger force designates the area the battalion will occupy. If the battalion is operating alone, the battalion advance party commander selects the area from a general area assigned by the battalion commander. After the battalion advance party commander reconnoiters the area, he divides it into company areas, and posts guides to direct units into their areas. Company personnel in the advance party further organize their assigned areas. The battalion advance party commander also selects a tentative location for the battalion command post, prepares recommendations for the security of the area, and develops a circulation plan that disturbs the existing terrain pattern as little as possible. It is desirable to have the service and maintenance elements centrally located in the area and near the main axis. Suitable working conditions for the maintenance platoon are necessary.

69. REGULATING POINT

a. On passing the regulating point, the serial separates from the column and, led by guides from the advance party, promptly moves into its assigned area. The regulating point should be at or near the entrance to the area to be occupied and should be easily recognizable on the ground. If the battalion is marching as part of a larger command, it may be

released from column control, as a serial, at the higher command's regulating point, and be required to march for some distance as a serial. This may require the battalion to have a battalion regulating point where guides pick up the companies and guide them into the assigned areas.

b. These regulating points may be designated in advance if the necessary information is available. In all cases, guides stay on the alert to recognize the leading elements of their respective units, so that they can lead them from the column without interrupting the march of the remainder of the serial.

70. OCCUPATION OF BIVOUAC AREA

When the battalion arrives at the bivouac, it is essential that the units move off the road without halting. The posting of guides, the selection of routes, and the allocation of areas by the advance party are all done to enable the unit to *clear the route of march without halting and without obstructing* the movement of other units (fig. 10). This requires aggressive action by all guides and commanders and supervision by the battalion commander and members of his staff. To assist in the occupation of the area, the advance party improves entrances and routes into the area if necessary. The area is organized so that the leading unit's area is farthest along the route or axis into the area, and areas of succeeding units are alternately on each side of the route or axis. The advance party should arrange for an area into which a march unit can coil up if necessary, and should take measures to insure that a stalled vehicle can be quickly by-passed. After the march

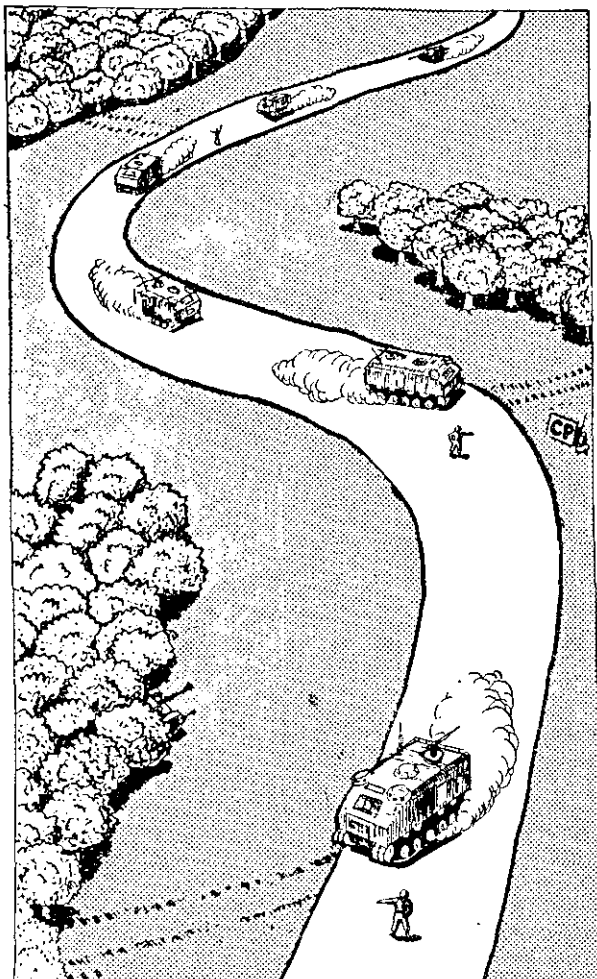


Figure 10. Occupation of bivouac or assembly area. The platoons of the reinforced companies enter their assigned areas without halting and with enough speed to permit succeeding vehicles to maintain the prescribed speed.

serial has cleared the route, any desired adjustments of vehicles can easily be made without holding up the flow of traffic.

71. SECURITY OF BIVOUAC AREA

a. Security in a bivouac area is obtained by concealment, by using natural or artificial obstacles, by local security measures, by reconnaissance, and by establishing an outpost system (fig. 11). Although a bivouac area is normally located so that there is little chance for contact with enemy troops, counterintelligence measures against unfriendly inhabitants of the area may be necessary. Preparations may also be necessary for countering guerilla action and unexpected enemy penetrations. Passive protective measures against air attack include camouflage and dispersion. Because of this dispersion, the area to be secured may be quite large. Adequate measures should be taken for protection against radiological, chemical, and biological attack (par. 284).

b. An outpost system has the mission of protecting a resting command or defensive position against annoyance, surprise, or observation by ground forces. This system normally consists of road blocks at critical terrain features and of a series of observation posts—small groups who are charged with observing and reporting any hostile action. These observation posts form a line of observation around the bivouac. They occupy observation points well out from the main body, covering likely avenues of approach. If possible these positions provide an unobstructed view of the surrounding terrain. At night, observation posts are formed

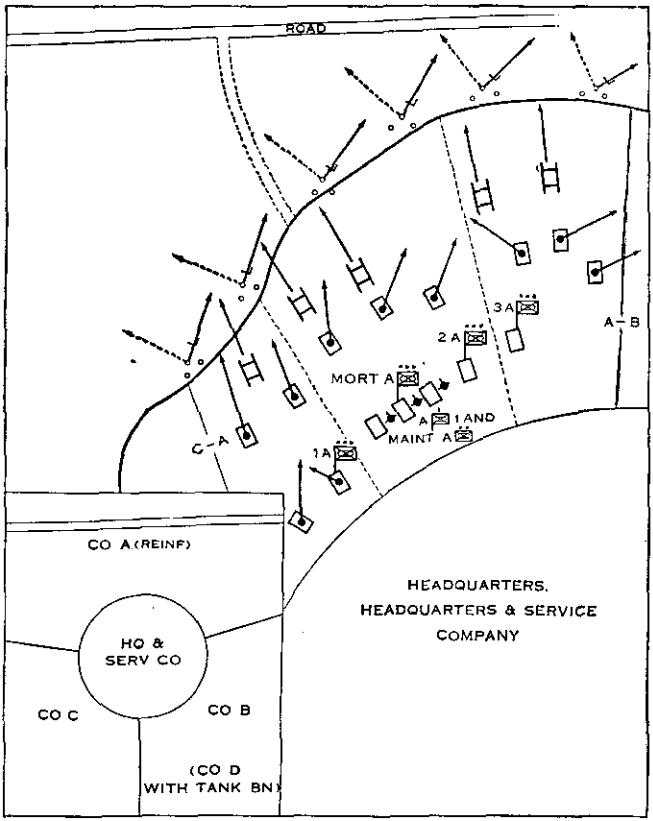


Figure 11. Reinforced armored infantry battalion in assembly area.

into two-man listening posts. Road blocks are also established to control traffic and to prevent unauthorized persons from entering the area. An armored infantry unit establishes local security within the battalion area.

c. Normally, when the battalion is operating as part of a larger command, the higher commander divides the perimeter among all units. He assigns coordinating points between adjacent units, where contact and liaison are to be established. Any instructions issued by the higher commander are immediately disseminated, so that all elements of the defensive system can function in the same manner.

72. COMMUNICATION AND LIAISON IN BIVOUAC AREA

a. The signal communication system of an armored infantry battalion in a bivouac area consists of messenger, wire, radio, and visual means. Local wire lines may be laid to companies and to various service activities, such as supply and maintenance platoons and the administrative and personnel section (if present with the battalion).

b. For security, use of radio within the battalion is minimized by using messengers. Each company sends a liaison agent or messenger to the battalion command post. Battalion sends a liaison officer to the next higher unit.

73. DEPARTURE FROM BIVOUAC AREA

a. Before departure from a bivouac area, the battalion commander issues a warning order to permit the completion of all necessary preparation for the march. When preparation is completed, each battalion unit reports its readiness to move.

b. When a battalion is marching as part of a larger command, a liaison officer, with radio-

equipped vehicle or messengers, is sent to the unit that precedes the battalion in column. This officer keeps his battalion commander informed as to the progress of the forward unit, so that the battalion is able to reach and clear the IP at the prescribed rate of march and distance without unscheduled halts. Similar arrangements are made between battalion units. This is especially necessary in night movements.

Section III. ASSEMBLY AREAS

74. GENERAL

a. An assembly area is an area where units assemble to organize for attack or to regroup after an attack, landing, river crossing, or movement. In this area the battalion normally services, inspects, and repairs vehicles; resupplies; and feeds troops.

b. When the area is used for preparation for an attack, it is located as near to the enemy position as terrain and enemy activity permits. Key personnel usually go forward to the attack position or a vantage point to receive orders, while the bulk of the battalion remains in the assembly area to complete their preparations.

75. CHARACTERISTICS OF ASSEMBLY AREA

a. Desirable characteristics of an assembly area for an armored infantry battalion include—

(1) Concealment from air and ground observation.
(2) Cover from direct fire.
(3) Hard standing.

(4) Good exits and entrances.
(5) Ample space for dispersion of vehicles, personnel, and equipment.

b. Overhead concealment is important. If the battalion is to remain in the assembly area for any length of time, camouflage of vehicles is stressed to prevent the enemy from detecting the location.

76. DISPOSITIONS WITHIN ASSEMBLY AREA

Battalion elements are disposed within the assembly area so that—

a. The battalion headquarters, headquarters and service company is encircled and protected by the other companies.

b. All units are able to move into and out of the area without passing through other companies' areas except on roads.

c. Service elements, such as the maintenance platoon and the medical detachment, are easily accessible to all companies.

d. Circulation within the area is reduced to a minimum.

e. Companies can readily move out in the anticipated order of march.

77. COMMUNICATION IN ASSEMBLY AREA

a. Normally there is radio or listening silence during the time the battalion is in an assembly area. Each unit sends liaison agents to the battalion command post; they are the primary means of communication during this period. The next higher headquarters is immediately notified of the time the

battalion closed in the assembly area, and a liaison officer is sent to the higher headquarters if one is not already there. This procedure may be provided for in the battalion standing operating procedure.

b. In the assembly area the battalion completes final communication plans for the coming operation. When the formation of teams is announced, the battalion assigns available frequencies to provide communication between the battalion and attached, supporting, and adjacent units. Current signal orders, together with instructions for any special, prearranged signals, are disseminated to all units of the battalion and to attached units. Communication with higher headquarters is closely coordinated.

78. SECURITY IN ASSEMBLY AREA

a. Security in an assembly area is obtained by concealment, utilization of natural obstacles, local security measures, reconnaissance, and establishment of an outpost system that covers all critical terrain features and likely avenues of approach.

b. The outpost system is organized to protect the unit from surprise attack by the enemy. Outposts must be strong enough to accomplish their mission. Outpost duty is fatiguing, however, and greatly reduces the subsequent combat efficiency of troops involved; therefore the striking power of the main body is not dissipated through unnecessarily large security detachments. Outposts comprise both tanks and armored infantry. Tanks are used in the reserve or support, or may be used to help defend road blocks, bridges, fords, and defiles along the

routes of approach. The outpost system is composed of a series of strong points on critical terrain features and avenues of approach. Each outpost sets up an observation post. At night these observation posts become listening posts. The outpost system for the area may be garrisoned entirely by one company or may be divided between two or more companies. If the outpost line is divided, the battalion commander provides means of coordination, such as coordinating points, prescribed patrols, and contact parties.

Section IV. SUPPLY, MAINTENANCE, AND EVACUATION DURING MARCHES, IN BIVOUACS, AND IN ASSEMBLY AREAS

79. SUPPLY ON THE MARCH

On a march, resupply of fuel and lubricants takes place during halts. Besides other scheduled halts refueling halts may be prescribed. Fuel and lubricant trucks from the battalion supply platoon may be attached to each company for refueling at halts. These trucks move down the column, dropping off full gasoline drums and lubricants at each vehicle. Resupply of water is accomplished at the same time if required, the supply trucks exchanging full cans for empties. On completion of refueling, the trucks pick up the empty gasoline drums. Columns may assemble off the road where supply trucks can move from one vehicle to the other. On extended marches in rear areas, higher headquarters may establish refueling points along the route of march, where empty fuel and lubricant trucks can replenish their loads.

Empty fuel trucks may precede the main body to the refueling points to prevent delay in resupply.

80. FEEDING DURING THE MARCH

Halts for feeding should coincide with refueling halts. In an administrative march, kitchens may go with the battalion advance party and have a meal prepared when the units arrive. The kitchens may march with their respective units, preparing hot meals en route for serving at prescribed halts or at the conclusion of the march. Normally the midday meal is a prepared lunch or combat type ration.

81. POSITION OF BATTALION TRAINS ON A MARCH

In an administrative march, the battalion trains, less those vehicles marching with individual companies, usually march as a unit at the rear of the battalion, without being separated into combat trains and field trains. In a tactical march, the battalion combat trains usually march with the battalion and the battalion field trains with the combat command trains.

82. MAINTENANCE ON THE MARCH

a. Vehicles that cannot be repaired before the movement time are evacuated to the supporting ordnance unit of the next higher headquarters. If time does not permit evacuation, or if the vehicles cannot be moved, their location and condition are reported to the next higher maintenance element.

b. The company maintenance sections march at the rear of their respective company columns.

c. A vehicle disabled en route is moved to the side of the road so that it will not interfere with the passage of the balance of the column. Vehicle crews make repairs within their capabilities on disabled vehicles. Company maintenance sections, if possible, repair inoperative vehicles or tow them to the unit destination. If the company cannot, the battalion maintenance platoon either repairs or tows the vehicle to the unit destination. If this is not practicable, the vehicle is left; usually its driver or selected members of its crew stay with it, and the supporting ordnance is notified of the location of the vehicle and the type of repairs required.

83. MEDICAL SERVICE AND EVACUATION ON THE MARCH

The battalion aid station marches either with the battalion headquarters or at the rear of the battalion column. Medical personnel are usually placed in support of each company by the battalion surgeon; they are equipped with litters and they ride in a detachment vehicle. This vehicle moves in the rear of the company column and is available to evacuate casualties to the battalion aid station. An ambulance evacuates casualties from the battalion aid station to the nearest medical installation.

84. RESUPPLY IN BIVOUAC AREA

In the bivouac area, the battalion is resupplied with ammunition, fuel and lubricants, rations, water, and spare parts. Other supply functions taken care of in bivouac are—

a. Requisitions for supplies, particularly class II and IV (clothing and equipment), are prepared and submitted to higher headquarters. Items to fill shortages are drawn and issued. Unserviceable items are salvaged and repaired.

b. Supply records are checked and brought up to date.

c. Bathing and laundry facilities should be made available. (These facilities are normally provided by higher headquarters without special request. The battalion commander sees that adequate transportation is made available to the companies to permit maximum use of these facilities.)

85. RESUPPLY IN ASSEMBLY AREA

In the assembly area, the final resupply of ammunition, fuel and lubricants, rations, and water is made. All vehicles are checked for the prescribed loads of supplies before combat operations. When an assembly area is occupied for an extended period of time, supply functions that are normally accomplished in bivouac, are accomplished to the extent permitted by the tactical situation.

86. MAINTENANCE AND EVACUATION IN BIVOUAC OR ASSEMBLY AREAS

a. Among the most important functions performed in a bivouac or an assembly area are vehicular inspections and maintenance. All vehicle engines and suspension systems are checked, and all weapons and signal equipment are inspected, cleaned, and repaired. Matériel that the battalion

cannot repair is evacuated to the supporting service agency concerned.

b. Personnel casualties receive only emergency treatment in the bivouac or assembly area. Cases requiring further treatment normally are evacuated by the battalion to division medical installations.

87. BATTALION TRAINS IN BIVOUAC OR ASSEMBLY AREA

The service and supply elements of headquarters, headquarters and service company remain with the battalion in bivouac and assembly areas until the battalion organizes for combat. Company kitchens remain with their companies until some time before the movement of companies to the attack position. Organization for combat into reinforced companies also includes organization of the service, supply, and administrative elements of the battalion into combat and field trains.

CHAPTER 3

TANK-ARMORED INFANTRY COORDINATION AND COOPERATION IN THE ATTACK

Section I. GENERAL

88. GENERAL

a. In the armored division the medium tanks are the primary striking force. In missions normally assigned to this division, armored infantry and elements of other branches have the basic function of assisting the medium tank units. This is in direct contrast to the infantry division, where tanks and all other branches have the basic function of supporting the infantry.

b. The medium tanks are used to take maximum advantage of their great battlefield mobility. Medium tank units are normally employed in teams of combined arms.

c. The heavy tank of the armored division is normally the best weapon against hostile armor. When medium tanks alone cannot easily defeat hostile armor, heavy tanks are used in a team with medium tanks, armored infantry, and artillery. The large caliber fire power of the heavy tank is also effective against fortifications and emplacements, and is useful when additional fire power and armor are needed. When no such specialized target is present, the heavy tank is employed like the medium tank.

d. In order to insure the proper and efficient employment of these combined arms teams, tank-

armored infantry coordination and cooperation must be accomplished at reinforced battalion, reinforced company, and reinforced platoon level.

(1) The reinforced armored infantry battalion commander achieves this coordination by organizing the reinforced battalion for combat and by considering tank and armored infantry capabilities when developing the plan of maneuver.

(2) Within reinforced companies, tank-armored infantry coordination is accomplished by organizing the reinforced company for combat, by efficient tank-armored infantry communication, by selecting the proper formation (including the proper element to lead), and by selecting the correct method of attack once the formation and element to lead the advance is selected.

(3) Within reinforced platoons, coordination and cooperation is achieved by teamwork and efficient communication. In those situations where the reinforced platoon is on a semi-independent mission, the platoon leader determines the formation, including the element of the team to lead the attack, and selects the method of attack.

89. ORGANIZATION OF THE REINFORCED COMPANY FOR COMBAT (TASK ORGANIZATION)

The commander of the reinforced company either forms reinforced platoons or personally coordinates the efforts of the tank and armored infantry rifle platoons. Reinforced platoons are formed by the

attachment of an armored infantry rifle platoon to a tank platoon, or a tank platoon to an armored infantry rifle platoon. Reinforced platoons are commanded by the platoon leader to whom the attachments are made. Tank platoons and armored infantry rifle platoons may be coordinated personally by the company commander when tank action in the attack is limited to supporting dismounted armored infantry by overhead or flanking fire; also—

a. When the tank unit can support the entire assault from positions near the line of departure.

b. When only one tank platoon is attached and must support the entire rifle company.

90. TANK-ARMORED INFANTRY COMMUNICATION IN THE ATTACK

Each tank is equipped with a medium-power voice set that nets with vehicular radio sets in the armored infantry units. The portable voice radio sets in the armored infantry also net with radios mounted in each tank. Basic radio nets are modified to fit the requirements of each reinforced company. Each tank is also equipped with an external connection to the tank interphone system. For other means of tank-armored infantry communication see figure 12.

91. SELECTION OF ELEMENT TO LEAD THE ATTACK FORMATION

a. Tanks lead the assault against light resistance, automatic weapons, antipersonnel mines and wire entanglements, entrenched infantry, and enemy armored units.

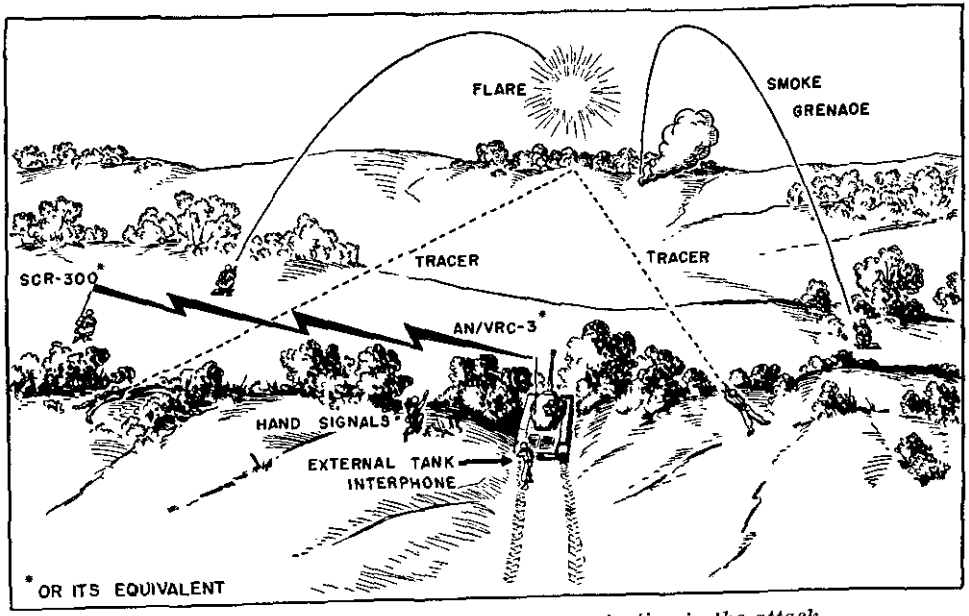


Figure 12. Tank-armored infantry communication in the attack.

b. Tanks and armored infantry move together in the assault against jungle positions, heavily fortified areas, towns and villages, and antitank defenses (except against emplaced antitank guns), as well as during periods of low visibility.

c. Armored infantry and engineers, when available, lead the assault against emplaced antitank guns, across defended river lines, through heavy woods and within cities, and in very rough or broken terrain.

92. METHODS OF ATTACK

Armored infantry may advance mounted in conjunction with tanks, dismounted with or without tanks, or by a combination of both methods. Armored infantrymen are transported as far forward as possible in each situation. This conserves their energy, speeds the advance, reduces casualties in crossing areas swept by small-arms fire and shell fragments, and uses the fire power of the carriers. The mission, the type of weapons available to the enemy, and the terrain govern the place where the armored infantrymen dismount to fight. However, the final assault to mop up the objective and complete the destruction of the enemy is usually dismounted. Even after the men dismount, carrier weapons are manned and fired to give close support to the attack.

93. TANK-ARMORED INFANTRY TEAMWORK

a. Cooperation within the tank-armored infantry team is continuous. All leaders study, plan, and

prepare ways of coodinating the elements of the team to meet the changing battlefield conditions.

b. The *role of armored infantry* in tank-armored infantry teams is to—

(1) Breach or remove antitank obstacles.
(2) Assist in the neutralization or destruction of antitank weapons.
(3) Designate targets for the tanks.
(4) Protect the tanks against individual antitank measures (fig. 13).
(5) Lead the attack under circumstances listed in paragraph 91*c*.
(6) Provide security for tanks at night.
(7) Mop up and consolidate the objective.
(8) Protect the tanks in assembly areas and attack positions.

c. The *duties of the tank elements* in tank-armored infantry teams are to—

(1) Neutralize or destroy hostile weapons by fire and maneuver (fig. 14).
(2) Make paths for dismounted armored infantry through wire and antipersonnel mine fields.
(3) Neutralize fortified installations with direct fire.
(4) Support by direct fire the advance of the armored infantry, when dismounted armored infantry leads the attack.
(5) Provide antitank protection.
(6) Lead the attack under circumstances listed in paragraph 91*a*.

Figure 13. Dismounted armored infantry protects tanks against individual antitank action.

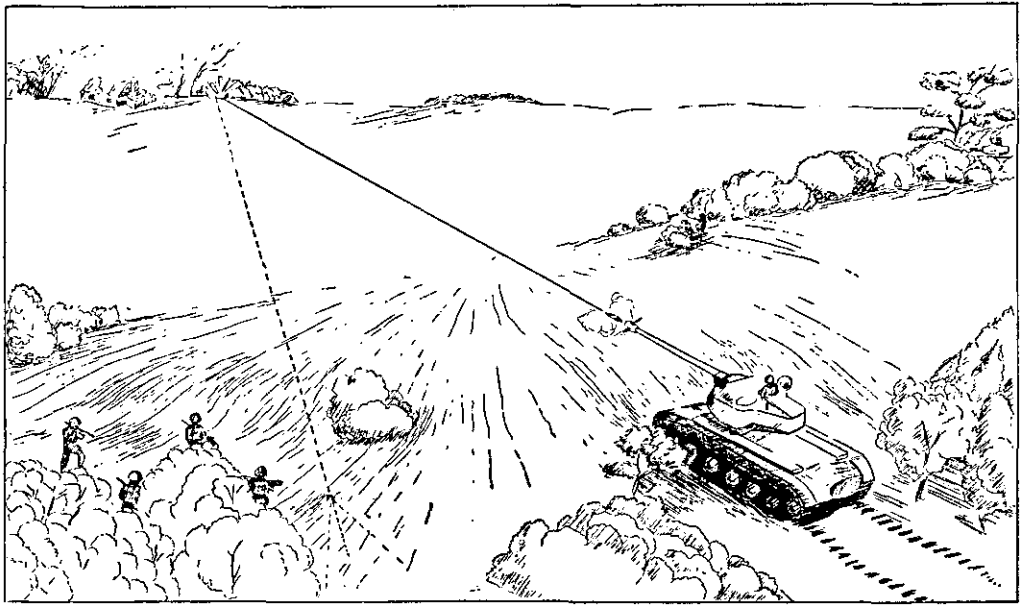


Figure 14. Tanks destroy automatic weapons firing on dismounted armored infantry.

Section II. MOUNTED METHODS OF ATTACK

94. GENERAL

a. The ability of armored infantry to accompany tanks in the attack is facilitated by use of armored personnel carriers. The armored infantry dismounts to support the tanks when necessary, to mop up and organize the objective, or when forced to dismount by the terrain or enemy action. Tanks and mounted armored infantry may be coordinated in the attack by—

(1) Using an integrated formation.
(2) Having the mounted armored infantry follow the tanks by bounds.
(3) Having the tanks and armored infantry approach the objective from different directions.

b. Time or VT fire may be placed over the objective of the mounted armored infantry team to neutralize enemy personnel equipped with individual antitank means. This time-fire may be used with any mounted methods of attack.

95. COORDINATING TANKS AND MOUNTED ARMORED INFANTRY BY USE OF AN INTEGRATED FORMATION

The attack of tank and mounted armored infantry units can be coordinated by combining the combat formations of each into one mutually supporting formation. The tank-armored infantry team then advances in an integrated formation. The selection

of attack formations for the tank and armored infantry platoons is based on the following considerations:

a. To Develop Tank Fire Power. In each situation the tank unit selects the formation that develops its maximum fire power. If maximum fire is needed to the front. it assumes a line formation; if it must fire to a flank the tank unit echelons in that direction; and if it must fire to the front and both flanks, it uses a wedge formation. See figure 15 for examples of integrated formations.

b. To Provide Security. The tank unit combat formation that provides the greatest security for the team is used. If there is a threat on one flank, the tank unit echelons to that flank. If both flanks are vulnerable, it uses a wedge formation.

c. To Provide Maximum Control Consistent With the Tactical Situation. The tank and armored infantry elements assume the formation easiest to control that develops the required fire power and provides the necessary security.

d. To Conform to the Terrain. The formations adopted take advantage of any terrain features that provide protection from fire and observation.

e. To Enable the Tanks To Protect the Carriers From Hostile Armor. The tank-armored infantry team commander constantly considers the fact that the armored personnel carrier cannot engage enemy tanks. The formation adopted must always provide adequate antitank protection for the mounted armored infantry. Without adequate antitank protection, mounted armored infantry cannot advance in areas where enemy tanks operate. Friendly tanks within the formation provide indirect as well

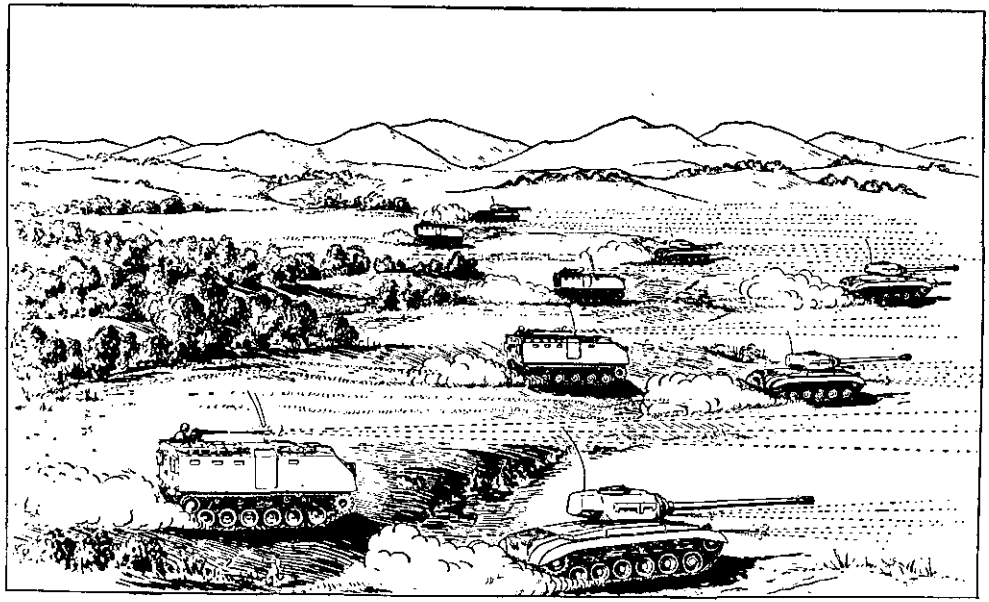


Figure 15. Tank-armored infantry team using integrated wedge formation.

as direct protection for the armored personnel carriers. An enemy tank or antitank gunner, observing an integrated formation of tanks and armored personnel carriers advancing toward his position, normally fires first on the targets most dangerous to him—tanks. Even if this fire is strong enough to disrupt the tank advance, the mounted armored infantry have a short time in which to seek defilade before continuing the advance dismounted. The more tanks in the attack, the fewer losses are sustained by the mounted armored infantry in the formation. The tank unit formation normally is selected to interpose the tank unit between the enemy position and the mounted armored infantry.

96. MOUNTED ARMORED INFANTRY FOLLOWING TANKS BY BOUNDS

a. Within the tank-armored infantry team, armored infantry elements may follow the tank elements by bounds. Movement by bounds behind a tank unit increases security but reduces the speed of the advance. However when this method is used, movement of tanks and mounted armored infantry is as rapid as the terrain permits. The distance between the tanks and mounted armored infantry must not become great enough to let enemy tanks move into the gap, thereby separating the tank and mounted armored infantry units; also it must not be so great as to deny the tanks rapid infantry support when needed.

b. The tanks that the armored infantry follows may advance as a unit in a combat formation (in mass). If the tanks advance as a unit from one ter-

rain feature to the next, the armored infantry moves into defilade behind the firing position as soon as it is occupied. The tanks then advance to the next terrain feature and the process is continued. See figure 16.

c. In some situations the tank unit that the armored infantry unit follows may itself advance by alternate or successive bounds. Normally the tank company is the smallest tank unit to employ movement by bounds. However, a tank platoon may move by bounds when operating out of supporting distance from the remainder of the company. If the tank unit employs alternate or successive bounds, the mounted armored infantry unit advances with one of the rear tank elements and halts in defilade behind the terrain feature occupied by the tank element already in position.

97. TANKS AND MOUNTED ARMORED INFANTRY APPROACHING THE OBJECTIVE FROM DIFFERENT DIRECTIONS

a. In some situations surprise may be attained by having the tank element attack first. After the enemy has been distracted by the tank attack, the mounted armored infantry advances rapidly toward the objective, using a different route. The armored infantry uses speed of movement to place it as near as possible to the objective before the enemy can shift his fires from the tank attack to meet this new threat.

b. The disadvantage of this method is that the tanks and armored infantry are separated during the

Figure 16. Armored infantry rifle platoon following a tank platoon by bounds.

advance. However, it is not used unless both tanks and armored infantry can fire into each other's zone of advance. This method requires maximum coordination to prevent the tanks and armored infantry from firing into each other as they approach their objective. It may seldom be used but is effective when two good avenues of tank approach lead into different flanks of the enemy position.

Section III. DISMOUNTED METHODS OF ATTACK

98. GENERAL

When dismounted armored infantry attacks together with tanks, the tanks and armored infantry may be coordinated by any one or a combination of the following methods:

a. Tanks and armored infantry approaching the objective from different directions.

b. Tanks following armored infantry and passing through to lead as the two closely approach the objective.

c. Armored infantry riding tanks.

d. Armored infantry and tanks move together at the same rate, or one slightly ahead of the other.

e. Tanks overwatching armored infantry.

99. TANKS SUPPORT BY FIRE, THEN JOIN DISMOUNTED ARMORED INFANTRY IN ASSAULT

When tanks are assigned the mission of supporting an attack by fire and then moving forward to join in the assault, they first fire from hull-defilade positions while the dismounted armored infantry

moves forward from the line of departure. When the armored infantry masks the tank fires, the tanks move forward to new positions to give continuous fire support. Just before the armored infantry begins its assault, the tanks move forward rapidly to join in the final assault. Since tanks are not restricted to the speed of dismounted armored infantry during their movement forward to join in the assault, they are exposed to enemy fire for a shorter period of time. This method can be used when the objective is clearly defined and when the terrain is open enough to permit tanks to fire overhead or to the flanks of the advancing infantrymen. Tank support of dismounted armored infantry is often used when obstacles exist that must be removed by infantry before the tanks can join them for the assault. See figure 17.

100. TANKS AND DISMOUNTED ARMORED INFANTRY APPROACH THE OBJECTIVE FROM DIFFERENT DIRECTIONS

In this type of attack, tanks and dismounted infantry use different routes of approach to the objective. This is sometimes necessary when the only route available for the tanks would unduly expose the dismounted armored infantry. While this method provides surprise, fire effect, and shock action, coordination of the assault is more difficult. Positive identification measures are taken to prevent tanks from firing into friendly infantry. Some armored infantrymen may be designated to accompany the tanks to provide close-in protection. The terrain

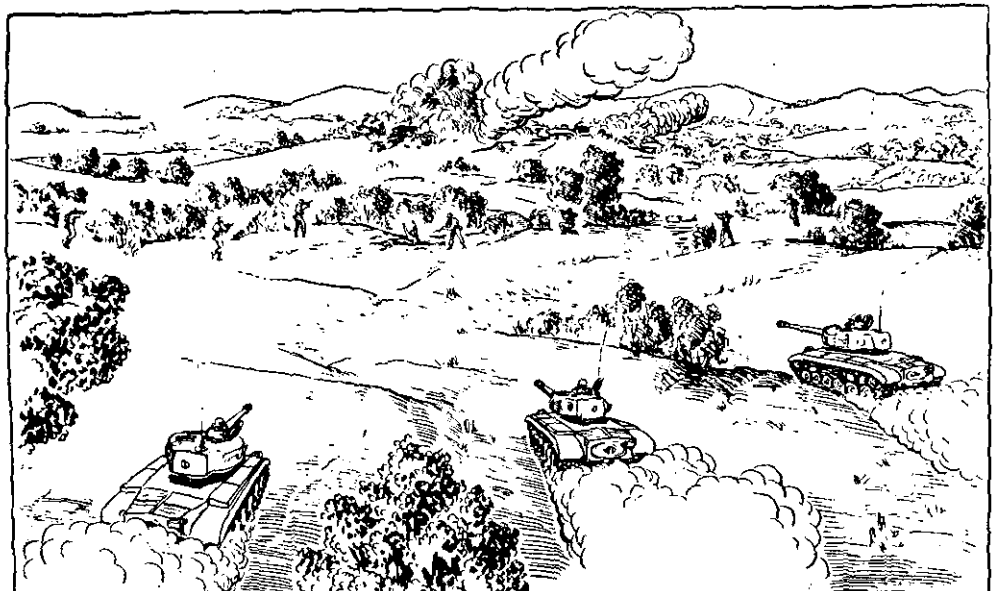


Figure 17. Tanks support by fire, then join dismounted armored infantry in the assault.

over which the tanks will move must be free of tank obstacles and should be open enough to prevent the enemy from effectively employing individual antitank weapons. See figure 18.

101. TANKS SUPPORT DISMOUNTED ARMORED INFANTRY BY OVERHEAD OR FLANKING FIRE

From hull defilade firing positions on or near the line of departure, tanks support the dismounted armored infantry by overhead or flanking fire throughout its advance from the line of departure to the objective. This method is used only when natural or artificial antitank obstacles prevent tank movement to the objective, or when additional tanks are provided to increase the tank support in the other methods. See figure 19.

102. TANKS AND DISMOUNTED ARMORED INFANTRY ADVANCING TOGETHER

a. Dismounted armored infantry and tanks move together at the same rate of speed throughout the advance from the line of departure to the objective. The infantry may move slightly in advance of the tanks, between them, or immediately in rear. As the advance progresses the relative positions of tanks and infantry are adjusted according to the enemy resistance and the terrain. This method is used when visibility is limited, in built-up areas, in woods, and when adverse terrain forces the tanks to move slowly. It permits close coordination and maximum mutual support, but it sacrifices speed and surprise. The low speed increases tank vulnerability to hostile

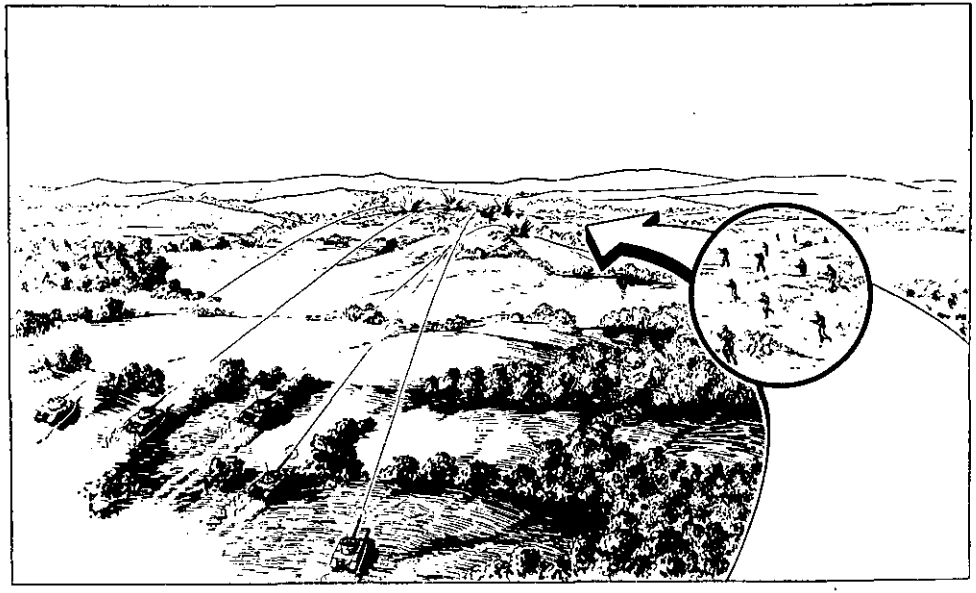


Figure 18. Tanks and dismounted armored infantry approaching the objective from different directions.

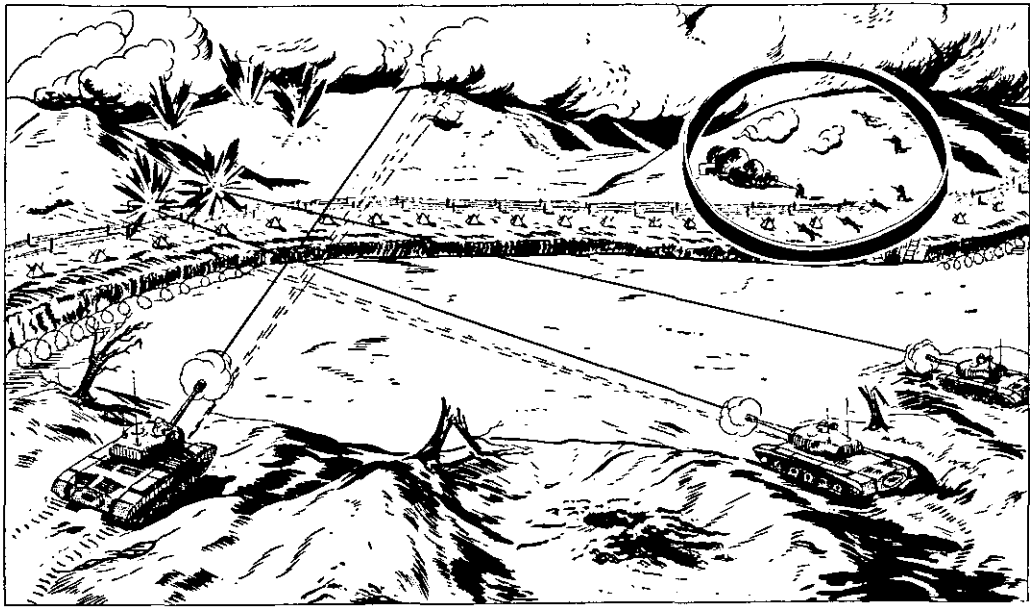


Figure 19. Tanks supporting dismounted armored infantry by overhead fire.

antitank fires and gives the enemy time to intensify his defensive fires. See figure 20.

b. In a variation of this method, the armored infantrymen ride on the tanks until enemy fire forces them to dismount and fight on foot. This provides speed but results in increased exposure of the armored infantry to enemy fire, particularly to air bursts. It also interferes with the operation of the tank. It is rarely used except as a supplemental means of transportation during exploitation. See paragraph 223 and figure 21.

103. TANKS INITIALLY SUPPORT BY FIRE, THEN PASS THROUGH THE DISMOUNTED ARMORED INFANTRY AND PRECEDE IT TO THE OBJECTIVE

This method uses the armor-protected fire power and shock effect of the tanks throughout the greater part of the attack. When the tanks advance from their initial firing positions, they move rapidly through the advancing infantry to precede it to the objective. Upon lifting supporting fires, the dismounted armored infantry closes on the objective, using assault fire behind the tanks. This method is used when obstacles initially require armored infantry to lead, but can be breached quickly to permit the tanks to take the lead.

Section IV. COMBINATION METHODS OF ATTACK

104. GENERAL

Tank-armored infantry methods of attack are flexible and commanders use any combination or modifi-

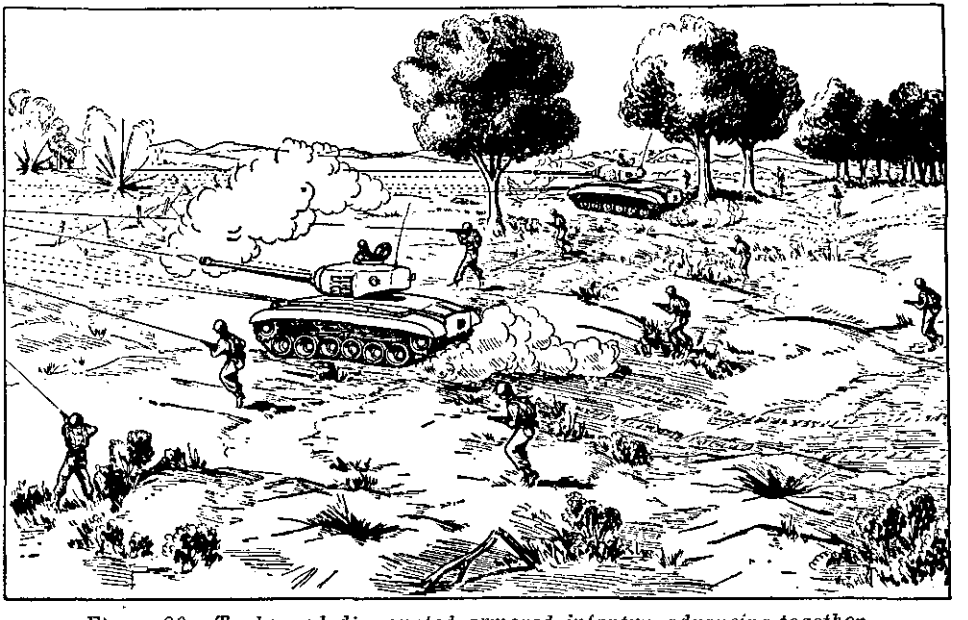


Figure 20. Tanks and dismounted armored infantry advancing together.

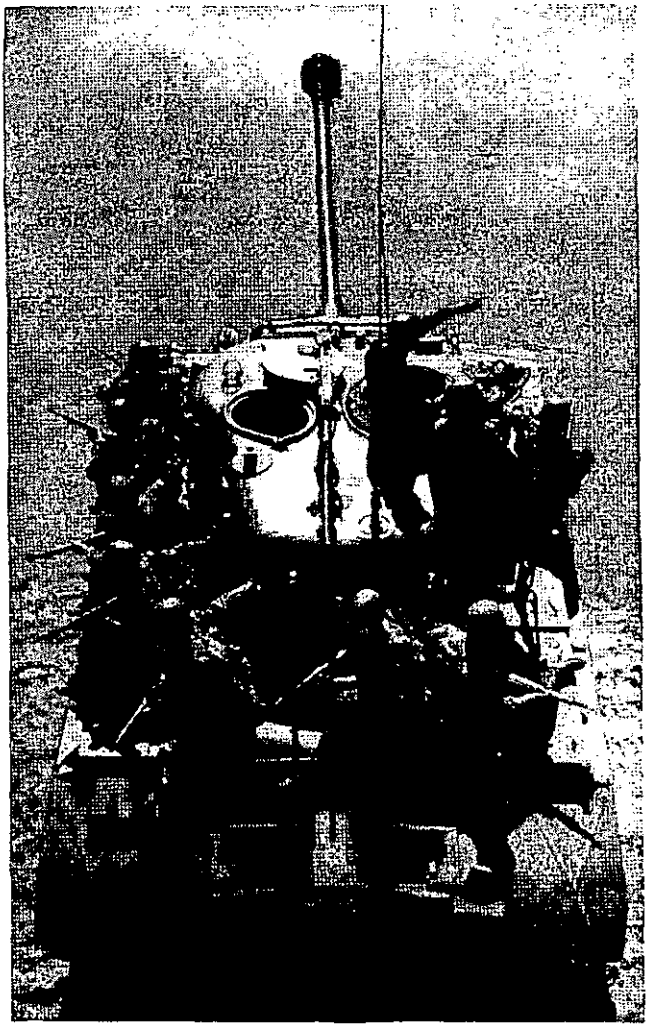


Figure 21. Armored infantry rifle squad mounted on a tank.

cation of methods that produces success. For example, dismounted armored infantry may often be employed to break through mine fields while the tanks of the team give direct support by overhead or flanking fire. Once the obstacle is breached, the tanks and carriers rejoin the dismounted armored infantry, and any of the other methods of attack, mounted or dismounted, may be used to continue to the objective. When a converging attack is used, other methods are often combined with it. One reinforced tank element may advance on the objective from one direction, using any of the mounted methods, while a reinforced armored infantry element advances from a different direction, using any of the dismounted methods of attack.

CHAPTER 4

SUPPLY, MAINTENANCE, EVACUATION, AND MEDICAL SERVICE

Section I. SUPPLY

105. RESPONSIBILITY

The battalion commander is responsible for the proper logistical support of his battalion and any attached units. The company commanders are responsible for the initial supply, and, except as indicated below, for the replenishment of all classes of supply to their companies and attached units. Requisitions or informal requests are forwarded soon enough for the battalion S–4 to meet the needs of the companies.

106. BATTALION SUPPLY PERSONNEL

a. Battalion Supply Officer (par. 280).

b. Company Commander, Headquarters and Service Company (par. 286).

c. Battalion Supply Platoon Leader. The battalion supply platoon leader commands the battalion supply platoon and may also be designated as the battalion ammunition officer.

d. Warrant Officer, Supply. The warrant officer, supply, is in charge of the battalion supply section.

His duties are largely administrative, but he may also be used by the battalion S–4 for liaison purposes, or as commander of the battalion field trains in the absence of other officers. He and his enlisted assistants may be used to command elements of the supply platoon traveling in convoys.

e. Company Supply Personnel. The company commander is assisted by the company executive officer who is also the motor officer. The company commander normally uses the unit administrative warrant officer for supervision over the mess, supply, and communication. The supply sergeant, motor sergeant, mess steward, and communication chief, as well as other designated personnel, also give active assistance to the company officers.

107. COMPANY TRAINS

All vehicles in the company carry a prescribed load of ammunition, reserve rations, emergency ordnance and signal spare parts, and a 5-gallon water can. Administrative wheeled vheicles normally carry 5-gallon fuel and lubricant containers. Company trains normally consist of *kitchen and baggage trucks* and *maintenance vehicles.* The company kitchen and baggage trucks do not accompany the company forward of the battalion trains area. The kitchen truck is normally located with the battalion field trains during combat and is ordered forward to the combat trains or to the company location by the battalion S–4, according to the tactical situation. The company *maintenance vehicles* either follow the company as closely as possible or revert to the control of the battalion combat trains.

108. BATTALION TRAINS

a. The battalion trains have administrative, supply, maintenance, and medical vehicles that are organic or attached to the battalion. Their organization, composition, and employment depends on the estimate of the supply situation, the mission of the unit, time and space factors, and the tactical situation. Battalion trains are classified as combat trains and field trains.

(1) Battalion *combat trains* consist of those battalion vehicles required for the *immediate support* of combat operations.

(2) Battalion *field trains* consist of those battalion vehicles *not* required for the immediate support of combat operations and not included in the battalion combat trains.

b. When the battalion is required to detach one or more companies to reinforce other units of the division, enough cargo trucks from the battalion supply platoon should be attached to the company for resupply of fuel, lubricants, and ammunition. A ¼-ton truck with litter racks from the battalion's medical detachment also is normally attached to each detached company. Conversely, when tank companies or other elements are attached to the battalion they bring with them the necessary supply and medical vehicles for their support. These vehicles are incorporated into the battalion trains and operate under battalion control. Splitting of the battalion maintenance platoon is not recommended. Detached companies do *not* normally have maintenance vehicles of their parent battalion's maintenance platoon attached to them.

109. COMPOSITION OF BATTALION COMBAT TRAINS

The composition of the battalion combat trains is variable, depending on the tactical situation and such restricting factors as the terrain, climate, roads, time, and space. A high degree of flexibility is essential in the composition of the battalion combat trains. As a rule the battalion combat trains have major elements of the battalion maintenance platoon and the battalion medical detachment, and those ammunition, fuel, and lubricant vehicles of the battalion supply platoon required for immediate resupply during the day.

110. EMPLOYMENT OF THE BATTALION COMBAT TRAINS

a. In the Assembly Area. When the battalion occupies an assembly area, all components of the battalion trains are with it. Before the movement of combat elements to the attack position, however, the trains' elements are organized into battalion combat and battalion field trains.

b. In Exploitation. In a fast moving situation the battalion combat trains normally follow at the tail of the battalion column. Small combat detachments may be placed with the battalion combat trains for protection and to act as rear guard for the battalion. When the combat elements of the battalion become engaged, the combat trains move forward into an assembly area, selecting a position that offers security by its proximity to combat elements. At night the combat trains occupy the center of the battalion perimeter defense. Supply lines extend over long distances in an exploitation and trains and supply

convoys need protection by combat elements. In some instances, the bulk or all battalion trains are considered combat trains. Expenditure of ammunition is less than in the attack or defense, but the consumption of fuel and lubricants is very heavy. To meet this requirement for fuel and lubricants, kitchen equipment for the battalion may be consolidated, and the resulting empty trucks used to transport fuel and lubricants. The three-day minimum reserve of individual combat or small-detachment type rations carried in all vehicles, may often be increased to a minimum of five days before an exploitation.

c. In the Attack. In a slow-moving situation the battalion combat trains stay in the rear and move forward by bounds as necessary, to support the battalion. Every effort is made to avoid enemy observation of the positions selected, movement to these positions, and activities that take place while in the position. In the penetration phase of the attack, ammunition expenditures are high and the consumption of fuel and lubricants relatively low. Vehicular and personnel casualties are usually high. If the area has a poor road net, special attention must be paid to the location of the combat trains to insure support.

d. In the Defense.

(1) In a *sustained defense* ammunition expenditures are high and the consumption of fuel and lubricants low. The battalion combat trains are compsed of the battalion medical detachment and elements of the battalion maintenance platoon necessary

for recovery and evacuation. The battalion field trains are located in the train area of the next higher command. Resupply vehicles move directly from the field trains to the combat elements. Kitchen trucks move forward from the field trains, serve hot meals, and return to the field train. It may be possible to feed hot meals only during darkness; then front-line elements will not get a hot lunch. The reserve company and battalion command and service elements may be fed three hot meals daily if the terrain permits unobserved movement of vehicles forward.

(2) In a *mobile defense*, trains operate generally as in the exploitation. Protection is necessary, both for the trains located within the battalion area and for the supply convoys that move long distances over routes not completely protected by friendly troops.

e. In a Retrograde Movement. The control of service elements is the primary consideration in a retrograde movement. The battalion combat trains consist of the battalion medical platoon, elements of the battalion maintenance platoon necessary for recovery and evacuation, and the minimum number of supply vehicles required for immediate support. All other vehicles are placed in the field trains. The battalion S–4 keeps fully informed on the location of combat elements, and as the battalion withdraws he supervises the movement of service elements to the rear.

f. Control. The battalion combat train is under the control of the battalion S–4 for operation, movement, and security.

111. COMPOSITION AND EMPLOYMENT OF BATTALION FIELD TRAINS

a. The battalion field trains generally include kitchen, ration, water, equipment, and administrative trucks. On many occasions they will include fuel, lubricant, and ammunition trucks that are not required in the battalion combat trains. A small part of the battalion maintenance platoon and a small part of the battalion medical detachment may be left with the battalion field trains.

b. The battalion personnel section with its vehicles is normally attached to the division administrative center, which is generally located with the division headquarters rear echelon in the division trains area.

c. The battalion field trains are under the command of the battalion supply platoon leader. They become part of the combat command trains, under the supervision of the combat command S–4. The movement and security of the battalion field trains are the responsibility of the combat command S–4; the technical and logistical operation of the battalion field trains is the responsibility of the battalion S–4.

112. RESUPPLY PROCEDURES, GENERAL

The companies submit requests for supplies to the battalion S–4, who moves the required supplies forward to the companies from the battalion combat

trains. Normally, the battalion S–4 is so familiar with the supply situation at the end of the day's operation that he can start moving supply vehicles forward before the companies submit their requests. The companies submit requests for services directly to the battalion surgeon, communication officer, and maintenance officer.

113. CLASS I SUPPLY

a. For definitions and methods of class I supply see FM 17–50.

b. In combat the ration section normally is located with the battalion field train. The ration section draws rations in bulk from the divisions or army class I supply point, breaks the rations down into company lots and issues them to the company kitchens. Troops should receive three hot meals daily. The meals are prepared at the kitchen location which may be in the field train, combat train, or with the company. The food is served to troops from the company mess location, or is placed in hot food containers and delivered to the troops.

c. When the situation prohibits the use of company kitchens, individual combat or small-detachment type rations are sent forward to combat elements in trucks during the daily after-dark resupply period.

114. WATER

The battalion supply platoon provides trucks for water supply as required. These trucks are located with the battalion field trains. All elements of the

battalion are resupplied daily by exchanging full 5-gallon cans for empty cans. Empty containers are refilled at the water supply point supporting the combat command. Full containers are sent forward to combat elements on the kitchen trucks, or on ammunition resupply trucks when the kitchen vehicles are not sent forward.

115. CLASS II AND IV SUPPLY

For definitions and methods of class II and IV supply, see FM 17–50.

a. Clothing and Equipment. Clothing and equipment are usually replaced when the battalion is in reserve positions or in bivouac. Companies send informal requests to the battalion S–4. The battalion S–4 consolidates requisitions and procures the replacement items.

b. Weapons, vehicles, and similar items. During combat, companies make informal requests to the battalion S–4 for replacement weapons and similar items. These informal requests are accompanied, when practicable, with the damaged items and an informal certificate of loss, damage, or destruction. Although the requisitions go through the battalion S–4, replacement vehicles are procured by the battalion motor officer through division ordnance. Replacement for critically needed ordnance items like vehicular spare parts is made by direct exchange at the ordnance maintenance company that supports the combat command. The battalion surgeon obtains medical items from the armored medical company supporting the combat command, and the battalion communication officer obtains signal equip-

ment and parts from the armored signal detachment supporting the combat command. Requests for quartermaster, engineer, and chemical items are submitted to the division technical services by the battalion S–4.

116. CLASS III SUPPLY

For definitions and methods of class III supply, see FM 17–50.

a. Procurement. After refueling combat vehicles, fuel and lubricant trucks return to the battalion field trains with their load of empty 5-gallon drums. In the combat command trains area they are grouped with fuel and lubricant vehicles of other units. These trucks are dispatched in convoy by the combat command S–4 to division class III supply point where their empty drums are exchanged for full drums; the trucks then return to the battalion field trains. The trucks with full drums are sent forward to the combat trains as needed.

b. Distribution. Combat vehicles normally are resupplied with fuel and lubricants during the after-dark resupply period. However, they may be resupplied from the battalion combat trains during the day or during a lull in combat. As directed by the battalion S–4, the supply vehicles move out under battalion control to a specified battalion release point. Guides from each company report to this release point, pick up the trucks, and lead them to the respective company areas. The supply vehicles then go to each individual combat vehicle in turn. Hand carry to combat vehicles is slow and tedious and should be kept to a minimum. Combat vehicles are not

moved to the rear for resupply, to avoid excessive movement and confusion. After the trucks have completed the resupply they are guided back to the battalion release point, where the battalion S–4 or his representative meets them and conducts them back to the battalion combat trains area.

1-17. CLASS V SUPPLY

For definitions and methods of class V supply, see FM 17–50.

a. Initial Supply. The battalion begins combat with a basic load of ammunition. This is a fixed amount of ammunition carried by individuals and by the organic combat and cargo vehicles of a unit. The basic load is determined and established by the Department of the Army. When specific combat situations make it necessary, temporary adjustments of the basic load are prescribed by the commander directing the operation.

b. Procurement. Combat is begun with basic loads intact. After replenishing the ammunition of front-line companies, empty and partially empty trucks are grouped in convoy in the battalion combat trains area and returned to the battalion field trains. Upon arrival in the field trains area the commander of the field trains, normally the battalion supply platoon leader, consolidates the loads and prepares a transportation order for the necessary ammunition to replenish the basic load. Arrangements are made with the combat command S–4 to dispatch the empty vehicles in convoy, with protection if required, to the division or army supply point for refill. Loaded

trucks then return to the battalion field trains where their loads are balanced according to anticipated requirements of combat elements. They are sent forward as requested by the battalion S–4, so that enough ammunition is available in the battalion combat trains for the immediate resupply of combat elements.

c. Distribution. Distribution of ammunition to companies is made similar to that of class III supplies.

118. COMPOSITION OF VEHICULAR LOADS

Supply vehicles are normally loaded as follows:

a. After obtaining loads at division or army supply points, each resupply vehicle carries one item of a particular class of supply. For example, one ammunition truck is loaded with tank ammunition and another with mortar ammunition. Loading can be done in less time this way because different items of supply are widely dispersed throughout the supply point.

b. Upon return at the field train area, type loads are formed to meet anticipated needs of the combat elements. For example, all ammunition trucks are loaded with several types of ammunition, and all fuel and lubricant trucks are loaded with gasoline, oil, gear lubricants, and grease. This insures that the minimum number of trucks will actually be involved in the resupply of combat elements, and that the destruction of one supply truck will not result in the destruction of all of one particular item of supply.

c. From the battalion field train area, mixed or

balanced loads are used to resupply the combat elements, either directly or from the battalion combat train area.

Section II. MAINTENANCE, BATTLEFIELD RECOVERY, AND VEHICULAR EVACUATION

119. MAINTENANCE

The battalion commander is responsible for the maintenance of all vehicles, weapons, and equipment of the battalion. Each individual is charged with care and preventive maintenance for his individual weapon and equipment. The armored infantry battalion is equipped and trained to perform organizational maintenance and to accomplish battlefield recovery of its own disabled vehicles. All matériel and equipment must be kept in serviceable condition at all times and efficient recovery and evacuation are needed to maintain a favorable balance of combat equipment. Organizational maintenance is the primary mission of all maintenance units of the battalion. Field and depot maintenance are done by higher echelons.

120. CATEGORIES OF MAINTENANCE

a. Organizational maintenance is maintenance done by organizations on their own equipment. Drivers and crew members of vehicles, and operators of items of equipment, perform crew maintenance. They inspect, lubricate, clean, and make minor adjustments on their equipment to maintain it in the correct working order. The crews or drivers make repairs that can be made within their capabilities

and equipment. Deficiencies that cannot be corrected by drivers or crews are reported to the company maintenance section for repair. Organizational maintenance is done by personnel of the company maintenance sections and the battalion maintenance platoon (including radio repairmen, tank and automotive mechanics, and armorers) who perform the more detailed checks, adjustments, and repairs, including the replacements of parts and assemblies. The extent of these repairs depends on the tactical situation, skill of the individuals, and the time, tools, and materials available to do the job.

b. Field maintenance is done by mobile and semimobile organizations. The items they repair are returned to organizations, station stocks, or replacement pools. Field maintenance for divisional battalions is provided by the division ordnance maintenance battalion, which is responsible for all maintenance beyond the capabilities of combat units and for the evacuation of disabled vehicles that cannot be repaired by the battalion.

c. Depot maintenance is done in fixed installations and consists of repairing and rebuilding equipment for return to depot stocks.

121. WEAPON MAINTENANCE

Small arms and other weapons are repaired by individual users or crews when possible. If the repairs cannot be made by individuals, crews, or company and battalion maintenance personnel, the weapon is repaired by a contact party or repair team from the division ordnance maintenance battalion, or it is evacuated to the company or detachment taken from

the ordnance maintenance battalion to support the combat command.

122. RADIO MAINTENANCE

Radio maintenance is facilitated by the thorough training of all company personnel (FM 17–70). As in the case of vehicles, preventive maintenance is stressed. All personnel are alert to prevent damage to radio sets from weather or from operation when the vehicle battery voltage is too low. The sets are periodically checked, aired, cleaned, and adjusted. The communication sergeant and radio repairman make necessary repairs during halts, and in assembly areas and bivouacs. The battalion communication officer supervises this activity. His duties are discussed in paragraph 283.

123. RECOVERY AND EVACUATION OF VEHICLES

a. The vehicles and equipment of the company maintenance section give maximum service support to the company. This may require the use of its armored personnel carrier for the recovery of a like type vehicle or a wheeled vehicle. The location and extent of damage to vehicles that cannot be recovered or repaired are reported to the battalion maintenance platoon for recovery, evacuation, and repair. The battalion maintenance platoon is equipped with tank recovery vehicles.

b. The battalion maintenance platoon makes all repairs within its capabilities. Vehicles that cannot be repaired are left on the battalion axis of advance and their locations are reported to the sup-

porting ordnance unit, or they are evacuated by battalion recovery vehicle to the vehicle collecting point of the supporting ordnance unit.

c. The battalion motor officer coordinates his maintenance and evacuation activities with the supporting ordnance unit to insure maximum efficiency and the quick return of repaired vehicles. To do this, the motor officer should maintain personal contact with the supporting ordnance unit. The battalion motor officer decides whether drivers should be left with their vehicles or returned to their unit. Within the division, the vehicle driver ordinarily accompanies the disabled vehicle through the various categories of maintenance and assists in the repair of the vehicle. If the vehicle must be repaired by army ordnance units, the driver returns to the battalion. The battalion motor officer keeps the battalion commander, the executive officer, and the S–4 informed of the status of vehicular maintenance in the battalion. This may be done through a daily status report that shows the number of combat vehicles within the battalion, by company, that are serviceable for combat; the number in the company, battalion, or supporting maintenance units; and the number lost through combat or administrative reasons.

d. In exploitation, battalion maintenance elements spend a minimum amount of time on disabled vehicles, both for their own protection and to insure that the other vehicles in the battalion get the necessary maintenance attention. If the vehicles can be repaired while the battalion is in an assembly area, they may be towed forward to the assembly area.

If they cannot be repaired, they are towed to the axis of evacuation and reported to the supporting ordnance maintenance unit.

e. In a retrograde action, company maintenance sections make minor repairs. If displacement is rapid, even minor repairs may not be possible and the evacuation of vehicles then becomes the primary consideration. The battalion maintenance platoon assists company maintenance sections in every way possible. Tanks and armored personnel carriers may be used to evacuate disabled vehicles on roads, letting the recovery vehicles recover and evacuate vehicles to the axis of evacuation. In some situations, the speed of withdrawal or the excessive number of disabled vehicles may not permit complete evacuation. The battalion commander then decides, based on instructions from higher headquarters, whether remaining vehicles will be destroyed to prevent their capture by the enemy. All salvageable items are removed from each vehicle before destruction.

Section III. MEDICAL SERVICE

124. BATTALION MEDICAL DETACHMENT

a. The *battalion surgeon* is responsible to the battalion commander for all matters pertaining to the health of the command, for efficient operation of the battalion aid station, for emergency medical treatment on the battlefield, and for the evacuation of casualties from the battlefield to the battalion aid station. For duties of the battalion surgeon see paragraph 281.

b. The battalion surgeon attaches three *company aid men* to each rifle company. Normally an aid man lives, eats, sleeps, moves, and functions with a combat platoon. He gives emergency first aid on the battlefield, directs walking wounded to the aid station, and places other casualties in marked, protected places to await the arrival of litter bearers.

c. The battalion surgeon uses the remainder of medical detachment to establish and operate the *battalion aid station.* The station can be split to advance or withdraw by echelon.

125. REMOVAL OF CASUALTIES FROM DISABLED ARMORED VEHICLES

All medical personnel and vehicle crew members are instructed on removal of casualties from disabled armored vehicles. The large amounts of fuel and ammunition in an armored vehicle make it especially apt to catch fire and explode when disabled by enemy action. Medical personnel are not always immediately available. Therefore, all crew members must be trained to evacuate themselves and disabled fellow crew members through the various hatches and emergency escapes.

126. LOCATION OF BATTALION AID STATION

When an armored infantry battalion is fighting dismounted, casualties are evacuated to the aid station by hand-carry or by ¼-ton vehicles. During this phase the following factors are considered in locating the aid station:

a. Tactical operation of the battalion.

b. Expected areas of casualty density.

c. Protection offered by defilade.

d. Lines of drift for walking wounded.

e. Length of litter haul (usually between 300 and 800 yards from the front line).

f. The absence of military targets.

g. Concealment and security.

h. Protection from the elements.

i. Ease of future movements of the aid station.

j. Accessibility to supporting medical troops.

127. EVACUATION OF CASUALTIES

a. Litter Bearers. When the necessity for evacuation by hand-carry arises, the litter bearer platoon from the supporting medical company is usually required to assist the organic litter bearers in the infantry battalion.

b. The ¼-Ton Truck With Litters. There is no provision for litter bearers to ride in or on the combat vehicles. In addition to three company aid men, mounted evacuation team consisting of a driver, who is also a surgical technician, and a ¼-ton truck with litter securing brackets is provided for each armored infantry company. It usually follows the personnel carriers of the company. Whenever a company from the battalion is attached to some other unit, a team goes with the company. This team evacuates casualties from combat vehicles or from the battlefield to the battalion aid station.

128. TREATMENT, PROCESSING, AND EVACUATION OF CASUALTIES AT BATTALION AID STATION

a. A wounded man arriving at the battalion aid station is normally tagged with an emergency medi-

cal tag, which indicates the treatment given him by the company aid men. Additional treatment given at the battalion aid station is also entered on this tag. The disposition of the case is entered in a log book maintained in the aid station.

b. A function of the aid station is property exchange and the handling of the individual equipment of casualties. A casualty evacuated from the battalion aid station may be accompanied by such items as a blanket, a litter, and a traction splint. The agency receiving the casualty replaces these items so that the aid station maintains its supply. Many casualties enter the aid station with organizational equipment, such as field glasses and individual weapons. These items are normally taken from the casualties for return to the combat troops. The S–4, when notified by the surgeon, gets these items from the aid station and redistributes them.

c. The surgeon of the next higher headquarters is responsible for evacuation from the battalion aid station. Evacuation may be accomplished by attaching or placing in support ambulances from the second echelon medical services. The battalion ambulance is necessary for evacuation in many situations. It is the responsibility of the battalion surgeon to establish personal contact with the surgeon of the next higher headquarters. The battalion surgeon must know the location, strength, and composition of the medical unit that supports and supplies the battalion medical detachment. He should keep the supporting medical unit posted on the axis of advance and probable location of the aid station.

Section IV. BURIALS AND GRAVES REGISTRATION

129. GENERAL

Burials, graves registration, and processing personal effects are functions of the battalion S–1. The battalion S–4 is responsible for providing transportation to evacuate the dead from the battalion area. Companies evacuate their dead to battalion graves registration collecting points by hand or by vehicle as rapidly as possible. If the rate of advance is too fast, or if enemy fire prevents evacuating the dead from company areas, their location is plainly marked and reported to battalion headquarters. Battalion graves registration collecting points should be convenient to supply routes. Battalion either evacuates the dead to the division graves registration collecting point or reports their location to division.

CHAPTER 5

TRAINING

Section I. FUNDAMENTALS

130. REFERENCES

For references on training management and conduct of training, see appendix I.

131. TRAINING OBJECTIVE

a. The *objective in training* the elements of the armored infantry battalion is to develop proficiency in basic infantry and armored infantry techniques. These techniques must then be adapted to the operating procedure and techniques of the reinforced battalions and combat commands of the armored division.

b. The *training program* is based on the training objective and an estimate of the training situation. In making the training estimate, several variables which must be considered are the—

(1) Mission (objective).
(2) Present training status of the unit (cadre).
(3) Number and type of replacements.
(4) Time available for training.
(5) Weather and climatic conditions.
(6) Training area and facilities.
(7) Status of equipment.
(8) Obstacles to training.

(9) Subjects to be emphasized, including special techniques.

132. TRAINING PLANS

a. Objective. A specific training objective normally is prescribed by the commanding general of the armored division. The higher authority issues a training memorandum upon which the training program of the armored infantry battalion is based.

b. Information. Training information is furnished rapidly to elements of the battalion so that subordinate commanders may formulate their plans for progressive training. Training is taken up in the following sequence: individual technical and tactical training; unit training beginning with the smallest tactical unit of the battalion and progressing upward through platoon, company, and battalion; and combined training of the different elements within the battalion. Later training progresses to combined training with other arms, as conducted by the combat command and armored division, culminating in combined field exercises and maneuvers.

c. Planning. Planning is continuous. Battalion plans are revised to keep abreast of changing situations and to secure maximum proficiency in each subject.

d. Instructor Training. Before formal training of the unit begins, officers and other key training personnel are indoctrinated in the subjects and training methods to be used in special classes. These special classes may be conducted as centralized training by division headquarters, particularly for staff activities.

e. Training Aids. Training aids of simple design and construction are made by the using unit if none are available from other sources. Maximum use of such aids as training films, film strips, charts, slides, models, mock-ups, and sand tables is made to enliven and improve instruction.

133. CONDUCT OF TRAINING

a. Individual Training. Basic military and individual tactical training is normally accomplished within the unit. Certain key technical personnel may receive training under a centralized system of instruction conducted by higher headquarters, or at Army Service Schools. The latter applies particularly to maintenance, communication, staff, and other specialist personnel.

b. Unit Tactical Training. Unit tactical training begins upon completion of the individual phase of training. Tactical training includes—

(1) Explanation of the principles to be taught.
(2) Demonstration of these principles.
(3) Supervised practical work by the elements of the unit.
(4) A critique for the unit as a whole, with special critique as necessary for key personnel.

c. Points to be Emphasized. Points to be emphasized in unit training are—

(1) Development of leaders.
(2) Application of previous technical and individual training.
(3) Unit teamwork.

(4) Preparation for combined training, maneuvers, and combat operations.

Section II. INDIVIDUAL TRAINING

134. PURPOSE

The purpose of individual training is to convert the individual into a soldier and prepare him to function effectively as part of the battalion fighting team. First the individual is trained in essential basic military subjects, after which he receives instruction in individual tactical and technical skills. Throughout his instruction he receives a minimum of 5 hours of physical training weekly.

135. SPECIAL TRAINING

In addition to the basic infantry techniques, special training is conducted in—

a. The role of the armored division and reinforced battalion.

b. Mounted movement by organic vehicles.

c. Crew drill, storage, and formations.

d. Driving, mounted tactical formations, and crew maintenance.

e. Scouting and patrolling, mounted.

f. Communication in the armored infantry battalion.

Section III. UNIT TRAINING

136. PURPOSE

The purpose of unit training is to continue the training of personnel who have completed their in-

dividual training either in the unit or at a replacement training center. Unit training molds individuals into units and develops units into a well-trained, hard-hitting fighting team.

137. PHASES

a. The unit training program is divided into the following phases:

(1) *Squad, platoon, and reinforced platoon.*
(2) *Company and reinforced companies.*
(3) *Battalion.*
(4) *Combat command.*

b. During the *platoon and company* phases each element is developed into a fighting team capable of operating vigorously and applying correct techniques in all tactical and unit exercises. Emphasis is placed on the development of initiative and leadership. During this phase all rifle platoons, the mortar platoon of the rifle company, the battalion reconnaissance platoon, and the 81-mm mortar platoon are tested in combat firing proficiency.

c. The objective of the *battalion* phase is to develop and perfect the battalion technique in the fundamentals of tactical operations. This phase includes training in marches and maneuver, and exercises teaching the proper handling of troops in a campaign, including administration, supply, maintenance, and evacuation. During the company and battalion phases, the battalion staff, intelligence, communication, maintenance, and supply agencies are instructed in their duties and trained in battalion and combat command operating procedure.

d. The *combat command phase* applies the fundamentals already mastered to the tactics, technique, supply and logistics, and operating procedure of the combined arms teams within the combat command.

e. Basic and individual training is reviewed wherever necessary. Throughout all phases, unit training is conducted in the coordination of the combined arms organic to the armored division, particularly with tank, artillery, and engineer units. Units are also trained to operate in varied smoke densities with the minimum loss in combat efficiency.

138. MINIMUM TRAINING SCHEDULES

See appendix VII for schedules and scopes to be used as a guide in planning unit training.

PART TWO

THE ARMORED INFANTRY RIFLE COMPANY

CHAPTER 6

THE RIFLE PLATOON

Section I. GENERAL

139. ORGANIZATION AND EQUIPMENT

The armored infantry rifle platoon has a platoon headquarters, three rifle squads, and a light machine gun squad. Each squad is mounted in an armored personnel carrier. The platoon headquarters rides with a rifle squad. For details of organization and equipment see Tables of Organization and Equipment 7–27N.

140. DUTIES OF PLATOON HEADQUARTERS PERSONNEL

a. The platoon headquarters has two men, the platoon leader and the platoon sergeant.

b. The *platoon leader* is responsible to the company commander for the discipline and training of his platoon, for the maintenance and efficient operation of its vehicles, and for its success in battle.

c. The *platoon sergeant* is second in command of the platoon and is the principal assistant of the platoon leader. He keeps abreast of the situation at all times and is prepared at any time to assume command.

141. SQUAD LEADER

a. The *squad leader* commands his squad. He is responsible for the discipline, appearance, training, control, and conduct of his squad. His squad is trained to use and care for its weapons and carrier, to move and fight efficiently as individuals, and to function effectively as a team with or without tanks. When the squad is mounted in carriers, the squad leader is the vehicle commander. He is responsible for maintenance of intervehicular distances in mounted formations, preventive maintenance of the carrier, employment of vehicular weapons, stowage of equipment and supplies in the carrier, and rotation of drivers on long marches.

b. The *assistant squad leader* performs duties assigned by the squad leader. He takes command of the squad in the squad leader's absence. In combat, the assistant squad leader usually controls the fire of the automatic rifle team and any vehicular weapons which are used.

142. DRIVER

The driver is responsible for the efficient operation of the personnel carrier. He works with the company maintenance section on all maintenance

and repair operations on his vehicle. He accompanies his vehicle to the battalion maintenance platoon for major checks and repairs.

143. CONTROL AND COMMUNICATION

The platoon leader controls his platoon by oral orders, by radio, and by visual signals. He communicates with company headquarters by radio, telephone, messenger, or visual signals. He has both a mounted and dismounted radio net.

Section II. PLATOON COMBAT FORMATIONS

144. MOUNTED FORMATIONS

Mounted platoon combat formations are used during the movement from the attack position to the line of departure and beyond. The formations are flexible. The type of terrain and available cover and concealment govern the position of each vehicle in the formation. The platoon leader moves where he can best control his platoon. In selecting the formation to accomplish his mission, the platoon leader considers the need for control, security, fire power, terrain, and enemy information. As the platoon advances, he may change formations to fit the situation. When moving in formation, platoon security is achieved by giving each vehicle commander a definite zone or sector of observation. When an attack is expected from a known direction, formations are chosen that permit rapid concentration of fire in the direction of known enemy locations (figs. 22, 23, and 24).

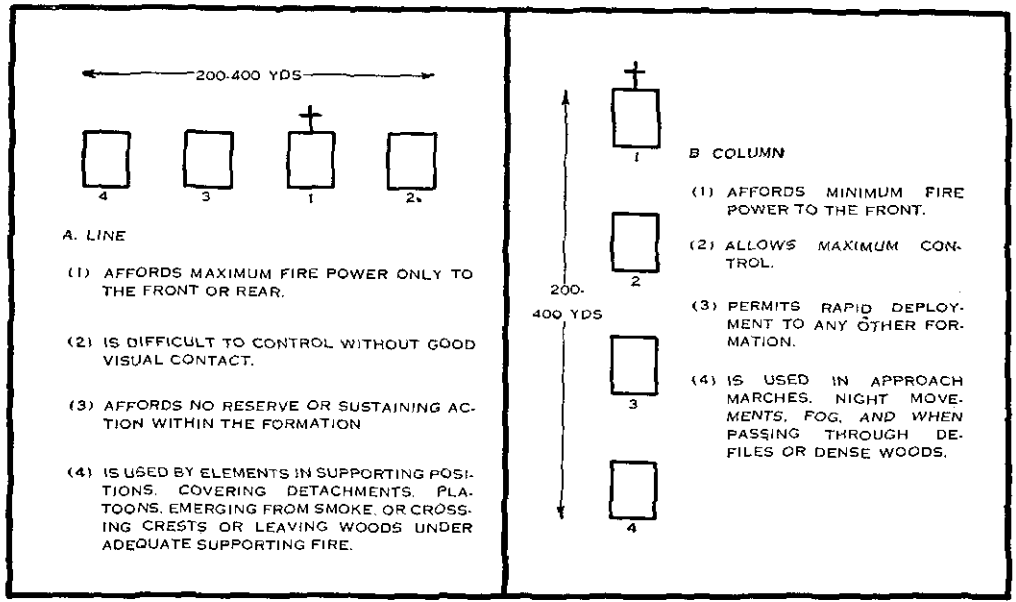
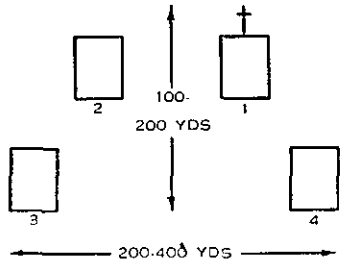


Figure 22. Mounted armored infantry platoon combat formations, line and column.



C WEDGE

(1) AFFORDS GOOD FIRE POWER TO THE FRONT AND EACH FLANK

(2) PROVIDES GOOD DIRECTIONAL CONTROL BUT THE CONTROL DEPENDS LARGELY UPON VISUAL CONTACT BETWEEN ADJACENT APC'S.

(3) LENDS ITSELF READILY TO DEVELOPMENT OF MOVEMENT BY BOUNDS OR FIRE AND MANEUVER

(4) IS USED PRIOR TO CONTACT WHEN THE PLATOON LEADER WANTS TO MAINTAIN MAXIMUM CONTROL THOUGH DEPLOYED.

Figure 23. Mounted armored infantry platoon combat formation, wedge.

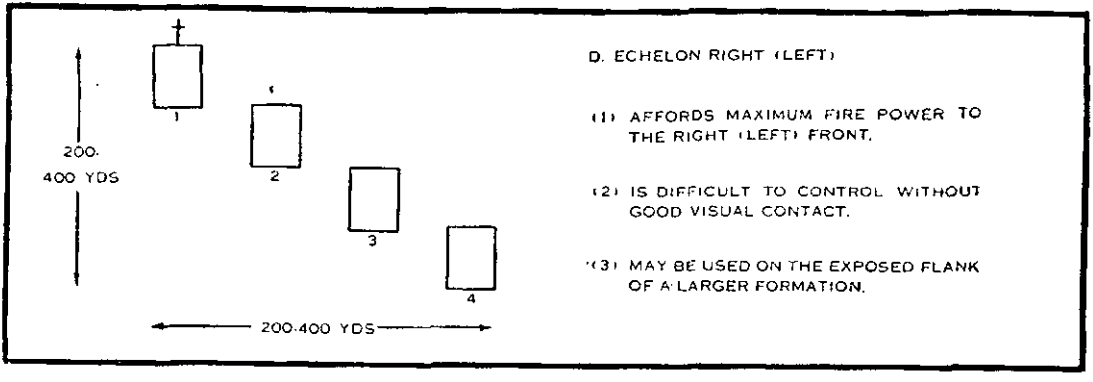


Figure 24. Mounted armored infantry platoon combat formation, echelon.

145. DISMOUNTED FORMATIONS

The company commander ordinarily decides on the first formation and allows the platoon leader to change it as necessary. The usual formations are the *platoon column*, *vee*, *line*, *wedge*, and *echelon* (app. III).

a. Platoon column is used to approach an enemy position that is believed to be directly to the front but is not yet located. It is normally the best formation for movement in woods, smoke, fog, at night, and through defiles and along trails. It is easy to control and is flexible because it provides all-around protection and facilities immediate action toward the flanks.

b. Platoon vee is used when the enemy is believed to be directly to the front and his approximate strength and location are known. The bulk of the fire power of the platoon can be directed to the front. It provides security to both front and flanks and favors maneuver and control.

c. Platoon line is used when the location and strength of the enemy are known. In this formation, the platoon can deliver the greatest fire power to the front in the shortest time. Suitable occasions for the line formation are a frontal attack, an attack against an enemy flank when maximum fire power is desired, and in the assault phase of a night attack. This formation permits rapid crossing of areas exposed to mortar, artillery, and long range machine gun fire.

d. Platoon wedge is used when enemy strength and dispositions are not known or when the platoon

is acting alone. Its all-around protection and ease of control give flexibility.

e. Platoon echelon right, or left is used to protect an open or exposed flank. It permits heavy fire to the front and in the direction of the echelon.

146. TANK-ARMORED INFANTRY TEAM FORMATIONS

a. Mounted. The formations adopted by the elements of the team depend primarily on the method of attack being used. Tanks and armored infantry may attack in an integrated formation; that is, the tanks and carriers are combined into a single formation (fig. 25). When the mounted armored infantry follows the tank element by bounds, each tank and armored infantry unit uses the formation best suited to the accomplishment of its missions.

b. Dismounted. The formations adopted by the elements of the team are determined by the method of attack used. The tanks may lead, the dismounted armored infantry may lead, or the two may advance together. When the tanks initially support by fire, the dismounted armored infantry leads. If the tanks move forward to join the armored infantry for the assault, either the tanks lead, followed closely by the dismounted armored infantry, or the two advance together in the assault. When tanks and dismounted armored infantry converge on the objective from different directions, each uses the formation best suited for its advance. Normally an integrated formation is selected for the assault. Either the tanks lead the assault or the tanks and dismounted armored infantry advance together in the assault.

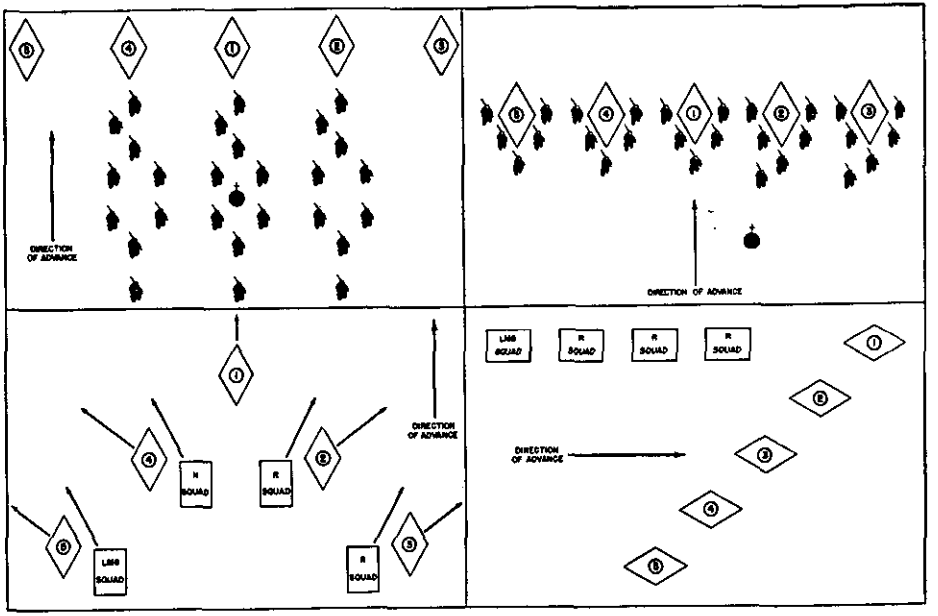


Figure 25. Typical tank-armored infantry platoon team formations.

147. SQUAD COMBAT FORMATIONS

a. The squad formations used during the various stages of the attack are squad column, squad diamond, and as skirmishers. The initial formation is usually prescribed by the platoon leader; thereafter the squad leader changes his formation to meet changes in the situation and terrain.

b. Squad column is usually the best formation for movement in woods, fog, smoke, and darkness, when control is the governing factor. It is also used for moving along narrow trails and through defiles. The squad column is easily controlled, gives observation in all directions, and permits immediate action toward the flanks.

c. Squad diamond is especially adapted to situations that require readiness for action in any direction; for example, when the squad is acting alone or where a squad is the leading element of a platoon. This formation offers good control, all around security, flexibility, and dispersion.

d. As skirmishers is a preliminary fighting formation normally used after contact with the enemy has been gained but before the squad leader completes his reconnaissance to determine the most favorable location for the automatic rifle and vehicular weapons. This formation provides flexibility by allowing the squad leader to place the automatic rifle team and vehicular machine guns carefully. As soon as the squad leader determines the best location for the automatic rifle, he causes the squad to form as skirmishers with the automatic rifle right or left. After the automatic rifle team has been committed,

all the squad weapons may fire to the front. Unless instructions from the platoon leader prohibit, the squad leader may use vehicular weapons on ground mounts or may place the carrier in hull defilade and designate riflemen to man vehicular machine guns. *As skirmishers* is used in a frontal attack and during the assault. This formation is adapted to rapid dashes across open areas, particularly in areas exposed to enemy fire.

Section III. PREPARATION FOR THE ATTACK

148. GENERAL

Before an attack the platoon may halt in a covered or defiladed area designated by the tank-armored infantry team commander or company commander. This area is usually part of the company or battalion assembly area. While the platoon is preparing for the attack, the platoon leader, accompanied by the platoon sergeant and a messenger, goes to receive the company attack order. For the platoon leader's estimate and troop leading procedures see paragraphs 37–39.

149. COMPANY ATTACK ORDER

a. The company attack order assigns the platoon a mission either in the assault or the support. If the platoon is in the assault echelon, it is given a definite zone of action by the assignment of a particular section of the line of departure or an area from which to start its attack, a direction of attack, a time of attack, and a definite terrain objective or

a series of objectives to be captured. The platoon is seldom assigned boundaries; by coordination with the adjacent unit, it can take advantage of covered routes in adjacent zones of action.

b. The armored infantry rifle company commander also coordinates tank-armored infantry teamwork when tanks are attached. This coordination is accomplished by the tank company commander when the rifle platoon is attached to a tank company.

150. METHOD OF ATTACK

a. The platoon may fight as a reinforced platoon of tanks and armored infantry; or it may fight without tank support. Methods of attack used by reinforced armored infantry rifle platoons and reinforced tank platoons are covered in paragraphs 94–104. Maximum advantage is taken of the great automatic weapons fire power available to the platoon.

b. Advancing dismounted without tanks as an assault element of a larger unit.

(1) The platoon advances from the line of departure to the assault position by fire and maneuver. The platoon is supported by the heavy indirect fires provided by the artillery and mortars.

(2) In some cases, prearranged supporting fires are adequate to keep the enemy down and neutralize his resistance throughout the advance from the line of departure to the objective. In this event, the platoon advances rapidly as a unit across the line of

departure to the objective under the protection of these heavy fires. These conditions make it unnecessary to add the fire power of riflemen to the supporting fires until the assault starts. If there is a suitable firing position near the line of departure, the light machine gun squad may add its fire to those of the other supporting weapons. Vehicular weapons also supplement the supporting fires.

(3) The platoon uses a covered approach if one is available. If not, the platoon makes a rapid frontal advance, taking maximum advantage of available supporting fires and smoke. When occasional enemy weapons are encountered, they are taken under fire immediately by the advancing riflemen. This situation occurs often when the platoon attacks as a part of the company and battalion in a coordinated attack.

(4) Prearranged supporting fires may not neutralize all enemy direct-fire weapons. The rifle platoon then reinforces the supporting fires with a portion of its own fires to let the rest of the platoon advance. If this condition is determined before crossing the line of departure, a part of the rifle platoon (for example, a rifle squad and the light machine gun squad) may execute a frontal attack to make the enemy's fires ineffective and hold him in position. At the same time, the rest of the platoon advances under the protective fires of the first element, using

maximum cover. However, in most cases, where the supporting fires cannot neutralize enemy weapons or keep them neutralized, the effect of those weapons becomes apparent after the platoon crosses the line of departure. When the platoon receives the fires of such weapons, the areas where the weapons are not neutralized are immediately taken under fire by the advancing riflemen. If this enemy direct fire continues, it may be necessary for the platoon leader to use fire and maneuver within the platoon itself. He uses the fire of his organic light machine-gun squad, any attached supporting weapons, and a portion of the rifle elements to neutralize the enemy weapons; the rest of the platoon maneuvers. The platoon leader also adjusts supporting fires of higher commanders on the enemy weapons not neutralized.

c. The platoon also attacks alone. To gain fire superiority when attacking alone, the platoon uses a portion of its fire power to replace or add to the supporting fires normally provided by higher commander. This usually is done in the following situations:

(1) When the platoon acts as a combat patrol and only artillery and mortar concentrations are available on call by radio.

(2) When the leading platoon in a dismounted approach march makes contact and heavy supporting fires are not immediately avail-

able. The platoon then attacks aggressively, using fire and maneuver within itself to rapidly overcome minor resistance.

(3) When in the exploitation or pursuit or in the continuation of a fast moving attack, and supporting weapons have not displaced rapidly.

(4) When attacking over terrain such as heavy woods, jungles, or mountains, and supporting weapons cannot be brought forward or have no field of fire.

d. Coordination of the assault with the lifting of support fires is a most important element in infantry combat. The end of supporting fires is indicated to the riflemen of the assault echelon by a visual signal fired by a selected supporting unit. Squads not already deployed then move into formation as skirmishers. The platoon takes up the assault fire and advances rapidly to the objective as the artillery, mortars, and other supporting weapons lift their fires from the objective so as not to endanger friendly troops.

151. ORDERS

a. The platoon leader usually issues his order at a previously selected observation post. He orients his squad leaders and tank unit leader by pointing out important terrain features. He may issue the order in a covered position after orienting leaders at the observation post. The platoon order includes—

(1) All pertinent enemy information; information about our own troops, including the

company objective, the missions of adjacent units, and the support expected from all support weapons according to the plan of supporting fires.

(2) The platoon objective, line of departure, time of attack, formation, and direction of attack.

(3) The line or area of departure for each squad, the mission or targets of each squad, security measures, and instruction for reorganization on the objective. Method of attack (if attacking with tanks), use of carriers, and carrier weapons.

(4) The location of the battalion aid station and other necessary administrative details.

(5) Communication instructions, including prearranged signals, the platoon leader's location, and the location of the company command post.

b. The platoon leader makes certain that all squad and attached unit leaders understand the order. Upon receipt of the order, the other leaders prepare for the attack.

Section IV. CONDUCT OF THE ATTACK

152. EMPLOYMENT OF LIGHT MACHINE GUN SQUAD

a. Missions. The light machine gun squad is used by the platoon leader to support the platoon. It selects positions from which it can give maximum support to the attack. Its fires are usually under the direct control of the weapons squad leader. The

squad displaces as the need arises to continue close support. Its missions may include—

(1) Supporting by fire the units of the platoon or units of adjacent platoons. The squad may be directed to follow a specified rifle element, or it may follow a general route along a flank of the platoon, occupying successive firing positions.
(2) Protecting the platoon flanks.
(3) Covering the platoon reorganization.
(4) Breaking up hostile counterattacks.
(5) Operating vehicular machine guns and rocket launchers as directed by the platoon leader.

b. Selection of Firing Positions. The platoon leader assigns a general position area and the squad leader selects exact primary and alternate firing positions. Firing positions with desirable characteristics provide:

(1) Observation of the assigned targets or sector of fire.
(2) Observation of friendly troops.
(3) Direct fire without interference from friendly troops, trees, or other obstacles.
(4) Maximum protection against hostile observation and fire.
(5) Covered routes for occupation and supply.

c. Targets. Appropriate targets for the light machine gun are crew-served weapons, small groups of enemy, pillbox embrasures, lightly armored vehicles, and tank vision slits. Enemy whose general location is known may be effectively engaged with short bursts of light machine-gun fire. In built-up

areas, light machine guns are used against definitely located targets in buildings.

d. Support by Light Machine-gun Squads. The light machine-gun squad supports the advance of the platoon rifle elements. The squad leader observes advancing riflemen, as well as the objective, so that his squad's fire does not endanger friendly troops. He looks for positions from which the team may deliver oblique, flanking, or enfilade fire on enemy groups holding up the advance of his platoon or adjacent units. His squad may employ additional vehicular weapons as directed by the platoon leader.

153. CONDUCT OF THE ATTACK BY A REINFORCED PLATOON

a. Formations. A reinforced platoon crosses the line of departure in the formation ordered by the company commander. As the team advances, the platoon leader changes the formation to conform to the method of attack, the terrain, enemy action, the need for security, and to develop the maximum fire power of the team in the proper direction. The armored infantry element may advance mounted, dismounted, or both. See paragraphs 88 through 104 for details of tank and armored infantry coordination in the attack. If a reinforced platoon is attacking alone, the initial formation is selected by the platoon leader and changed as necessary.

b. Advancing Mounted. When tanks and mounted armored infantry are advancing to the objective, maximum use is made of tank and carrier machine guns. The team advances as rapidly as terrain conditions permit, firing all machine guns as

soon as it comes within effective range of the enemy. The tank gun is employed on pin point targets such as antitank gun positions, embrasures of pillboxes, and enemy tanks. Machine gun fire of tanks and carriers is not withheld until definite targets are located; it is placed on every known and suspected enemy position. This massed fire pins down the enemy, denies him observation and movement, neutralizes his weapons, and breaks his will to resist. The armored infantry element of the reinforced platoon advances as far as possible in personnel carriers. It may use either the integrated formation of tanks and mounted armored infantry, follow the tank element by bounds, or approach the objective from a direction different from the tank element. The armored infantry remains mounted until forced by enemy fire or terrain to dismount; it normally dismounts to launch the final assault (fig. 26).

c. Advancing Dismounted. Condition of the terrain, the enemy situation, or the mission, may require a dismounted advance. An attack that starts mounted may change to dismounted if terrain conditions or enemy weapons force the armored infantry to dismount. The attack is then continued dismounted without any further orders or instructions. The tanks support the dismounted armored infantry by fire and take part in the assault unless natural or artificial obstacles prevent it.

154. CONDUCT OF THE ATTACK DISMOUNTED WITHOUT TANK SUPPORT

a. The platoon moves across the line of departure using available cover and concealment. Enemy fire

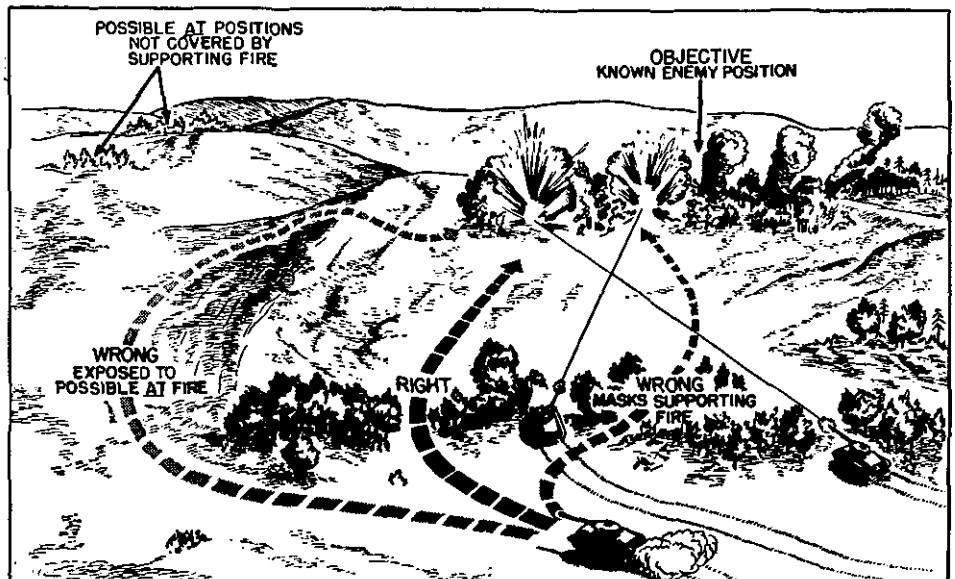


Figure 26. The maneuvering force uses routes that provide the best cover and concealment and that mask supporting fires the least.

and observation are neutralized by supporting fires and smoke. Mortar and artillery fires cover the movement of the assault rifle platoon to within assaulting distance (usually 50 to 100 yards) of the objective. The advance is as rapid as possible. When the advance rifle units are within assaulting distance of the objective, the supporting fires are lifted on call by the company or battalion commander, and the assault is started immediately under cover of their own direct-fire weapons.

b. During the platoon's advance to the objective, it avoids long-range machine-gun, mortar, and artillery fires by using defilade to by-pass impact areas, or by moving as fast as possible through the danger area. When the terrain or the size of the enemy concentration permits by-passing, this method is the best. Fires that cannot be by-passed must often be crossed. This is done rapidly since defensive fires usually increase in intensity and accuracy nearer the defensive position. Halts usually result in unnecessary casualties because of the increased time of exposure to enemy fire. When the platoon is halted by enemy action, the platoon leader immediately reports his position, the enemy action that caused his halt, and any other pertinent information to his company commander. The platoon resumes the advance as soon as possible.

c. When the platoon receives short-range fires from enemy weapons within effective range of the platoon weapons, the platoon immediately opens fire on the enemy weapons. Advance in this phase of the attack is made by fire and maneuver. Specific targets holding up the advance are pointed out to

the leaders of supporting weapon units, to accompanying forward observers, and to the company commander. At the same time the platoon leader advances his platoon by pinning the enemy down with the fire of one platoon element while the remainder of the platoon moves forward under cover of this fire. Then the moving element of the platoon occupies firing positions and covers the advance of the other element. Maneuver in the zone of an adjacent platoon may be necessary, and is done after coordinating with the adjacent platoon (fig. 27).

d. The platoon protects its flanks by having connecting groups maintain contact with adjacent units. When a considerable gap develops between his platoon and an adjacent platoon, the platoon leader reinforces the connecting group and promptly reports the situation.

e. The carriers follow the platoon by bounds from defilade to defilade. They provide overhead machine-gun fire support. The platoon leader may assign the assistant squad leader of the light machine-gun squad to remain with the carriers to control their fire and direct their movement by bounds behind the platoon. To maintain communication between platoon headquarters and the carriers and to control movement of the carriers, a dismounted radio is left with the carriers. Vehicular weapons used on ground mounts are manned by riflemen from the light machine-gun squad. The drivers may man carrier machine guns if the carriers are in hull defilade and it is not planned to occupy another firing position before seizing the objective. If carriers follow by bounds to give supporting fire, each rifle

Figure 27. The platoon advancing dismounted without tank support.

squad leaves one rifleman in the carrier as a gunner. Carriers are sometimes retained under company control when personnel dismount, as in a river crossing or a stealth night attack. In each of these situations, carriers would be left in the attack position or in the assembly area. The assembly area would be chosen if a high degree of secrecy is desired. The attack position would be chosen if protection by the carriers is more desirable than secrecy.

155. ASSAULT FIRE

Assault fire is the heavy fire of assault elements as they close on the enemy. Dismounted men fire from the hip or shoulder, walking forward as fast and steadily as the terrain permits. Each man fires at least one shot every two or three paces at any rise in the ground, bush, tree, or point that might possibly conceal an enemy. Assault fire is characterized by volume rather than by accuracy. Its purpose is not only to kill and wound the enemy but also to terrify and demoralize him. The shock effect of the supporting fires makes the enemy hug the ground with his weapon idle. Assault fire keeps him there or forces him into a hurried and disorderly retreat. The enemy is given no time to recover from the shock of the assault. All weapons, including hand grenades, are used to confuse and destroy him. When tanks take part, fire of the tank weapons is employed throughout the assault.

156. REINFORCED PLATOON IN ASSAULT

The assault may be made with tanks and armored infantry on line together, or with tanks followed

immediately by dismounted armored infantry. Whichever method is used, the tanks destroy enemy groups, defensive works, weapons, and emplacements by direct fire. The riflemen close with and destroy the enemy in close combat and protect the tanks from individual antitank weapons. Each rifle squad is located in a formation according to the position of one of the tanks. One member of the rifle squad is selected by the squad leader to walk behind the tanks and watch for signals both from the tank commander and the squad leader. As soon as the assault starts, the tanks advance slowly onto the objective firing their machine guns. Carrier machine guns are used to support the assault until masked by advancing riflemen. The riflemen and automatic riflemen use assault fire to close with the enemy. The reinforced platoon advances rapidly to the far side of the objective, where it prepares to continue the attack or to reorganize.

157. ASSAULT WITHOUT TANK PARTICIPATION

a. Rifle Squad in Assault. The final phase of any attack is the assault. In preparation for the assault, the squad works its way up to the objective by keeping as close as possible to the supporting fires and taking maximum advantage of the shock effect of these fires on the enemy. When the supporting fires are lifted, the squad starts the assault and closes rapidly, delivering assault fire on the objective until it is captured. The assistant automatic rifleman does not fire but assists the automatic rifleman. If carriers are available, the carrier's machine guns are fired by designated riflemen to support the assault

until their fire is masked. The squad leader and assistant squad leader seldom fire but take positions several paces in rear of the squad to enforce the continuity of fires and to control the alinement of the men.

b. Rifle Platoon in Assault. When the platoon attacks as part of the company, the assault is made at a specified time or on a signal from the company commander. If a platoon is assaulting alone, the platoon leader signals for the lifting of supporting fires. As the supporting fires lift, the objective is covered with fire from all available platoon weapons. The enemy is beaten down, thrown into disorder, or destroyed by fires from rifles, automatic rifles, rifle grenades, hand grenades, and rocket launchers. The platoon does not hesitate or stop at the near edge of the objective but drives forward to the far edge before the enemy has time to recover from the initial shock of the assault. Immediately upon arrival at the far edge of the objective, the platoon prepares for counterattack and for continuation of the attack to the next objective.

158. REORGANIZATION

a. Preparation to Defend Against Counterattack. The platoon leader's first consideration after capture of the objective is to dispose the platoon quickly to repel a counterattack. So that each squad leader may know the position of his squad on the objective, the attack order divides the objective into tentative squad sectors. This may be done by the *clock system*, superimposing an imaginary clock on the objective with the center of the clock on the center of the

objective (fig. 28). The direction of the enemy to the front is 12 o'clock; squad sectors are then assigned by hour numbers.

Example. 1st squad defend and reorganize from 12 o'clock to 4 o'clock; 2d squad, from 8 o'clock to 12 o'clock; 3d squad, from 4 o'clock to 8 o'clock.

Immediately upon capture of the objective the squads move, without further orders, to their assigned locations. The tanks cover enemy avenues of approach and provide antitank protection for the team. The platoon leader inspects the platoon area as soon as possible and makes adjustments to take advantage of the terrain and to meet enemy resistance. Carriers are brought forward and placed in full defiladed firing positions or under cover in the platoon area.

b. Preparation to Continue the Attack. As soon as positions are secured to repel possible counterattack, the platoon leader prepares to continue the attack. A report is sent to the company commander stating the effective strength of the platoon, the condition of vehicles and weapons, and the status of ammunition. Orders for a continuation of the attack are usually issued by the company commander. The platoon leader makes a brief reconnaissance to the front and flanks. He looks for available routes forward, makes an estimate of the situation, formulates a plan for the continuation of the attack, and issues an attack order.

159. SUPPORT PLATOON

a. In the early phases of an attack, the rifle company commander often keeps a platoon or a rein-

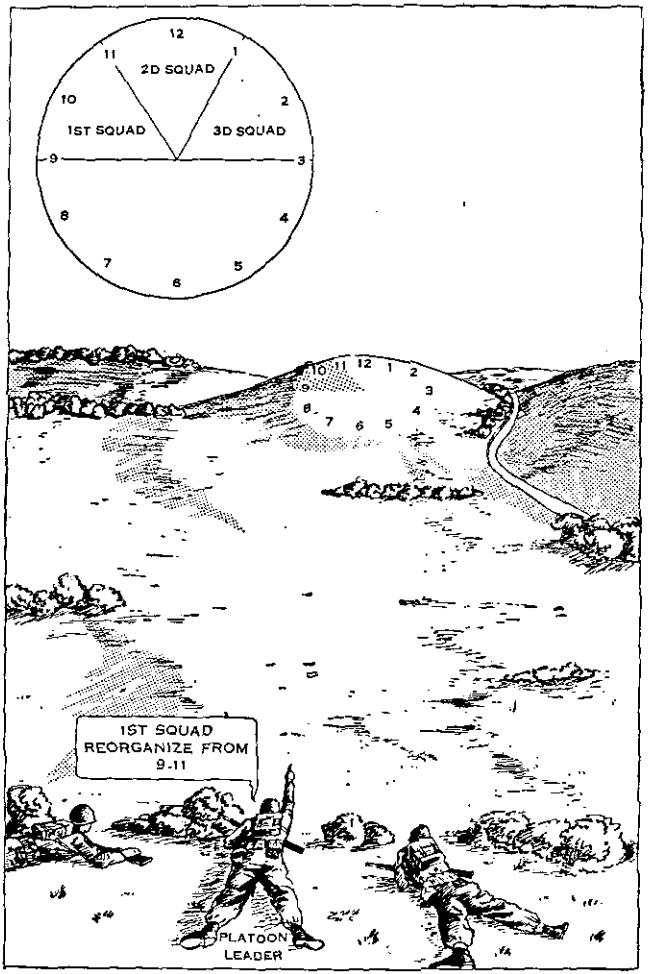


Figure 28. Reorganization on the objective.

forced platoon in support. Support platoon missions may be to—

(1) Provide flank security by means of combat patrols.
(2) Maintain contact with adjacent units.
(3) Envelope or attack the flanks of enemy holding up the assault elements.
(4) Take over the mission of an assault platoon if it becomes disorganized, lost, or suffers excessive casualties.
(5) Mop up objectives overrun by the assault echelon.
(6) Give supporting fire to the attacking platoons.
(7) Protect the reorganization of the assault echelon.

b. The support platoon advances by bounds as directed by the company commander. It moves in carriers as far forward as possible. The platoon leader prevents it from merging with the assault elements. During the advance the support platoon leader constantly observes the action of the assault elements and the situation on the flanks. As the situation progresses, he makes tentative plans for the use of his platoon.

Section V. SUSTAINED DEFENSE

160. TACTICAL EMPLOYMENT

a. General. An armored infantry rifle company organizes its defense area by assigning areas to its rifle platoons. Each rifle platoon is assisted by the fires of supporting weapons. A platoon defense area

may be classified—according to location—as a front-line area, a support area, or a reserve area. Each of these areas is organized similarly. Each platoon normally occupies one defense area; however, the terrain may require that elements of one platoon occupy separate defense areas. In this case, each area is separately commanded and operates directly under the company commander.

b. Missions.

(1) The mission of the *front-line platoon* is, with the support of other units, to stop the enemy in front of the main line of resistance and to repel him by close combat if he reaches it.

(2) The primary mission of the *support platoon* is to support the front-line platoons by fire. Other missions include extending in depth the defense of the company area; protecting the flanks and rear of the company area; limiting penetrations; and, under exceptional conditions, ejecting the enemy by counterattack.

(3) For employment of a platoon in the reserve company area, see paragraphs 255–258.

161. PLATOON DEFENSE ORDER

When practicable, the platoon defense order is issued from an observation point overlooking the platoon defense area. For troop leading procedure see paragraph 40. The defense order follows the same five paragraph form as the platoon attack order

(par. 151) with the following additional instructions:

a. Location and sector of fire for each rifle squad.

b. Location, mission, and sector of fire for each automatic rifle, rocket launcher, light machine gun, and attached weapons.

c. Organization of the ground, including type of emplacements, auxiliary defenses to be constructed, and priority of work.

162. FRONTAGE AND DEPTH IN SUSTAINED DEFENSE

a. Frontages. The company commander assigns frontages to his rifle platoons according to the natural defensive strength and relative importance of their defense areas. If a platoon occupies an area having poor observation and poor fields of fire, or heavily wooded or broken terrain, the frontage usually does not exceed 300 yards. If the area is open and provides longer fields of fire, a frontage of 600 yards may be assigned. If the terrain is open and flat, or if an obstacle across its front makes an enemy attack in strength very difficult, the frontage assigned to the platoon may exceed 600 yards. The frontage physically occupied by the platoon is determined by the intervals that can be left between foxholes without jeopardizing the effectivness of the defense, and by the number of supporting weapons within the area. These intervals are determined by observation, fields of fire, and obstacles. In general, they vary from 5 to 20 yards. Under normal conditions a 25-yard interval is allowed for each crew-served weapon in the platoon area. The pla-

toon covers by fire any portion of its front that is not physically occupied.

b. Depth. If the platoon has good fields of fire to the flanks and rear from its front-line foxholes, it may use a depth of only 50 yards. If elements of the platoon must move from the forward positions to get adequate fields of fire to the rear, a depth up to 200 yards may be used.

163. DISTRIBUTION OF RIFLE SQUADS IN SUSTAINED DEFENSE

a. The three rifle squads of a *front-line platoon* are placed to deliver their heaviest volume of fire forward of the main line of resistance, both immediately in front of the platoon defense area and across part of the front of adjacent platoons. Whenever possible the rifle squads will dismount the vehicular machine gun from their squad carriers and emplace it within their squad position to strengthen their defensive fires. When gaps exist between platoons, the flank squads are disposed to cover them. Rifle squad positions are adjusted to place supporting weapons in the platoon area at points where they can get their best fields of fire.

b. The rifle squads of the *support platoon* and of the platoons of the reserve company, are disposed to deliver their heaviest volume of fire forward of their platoon defense areas. They cover gaps between the forward platoons and are mutually supporting. They are disposed as in a front-line platoon. Exceptionally, a platoon may occupy two defense areas, with the platoon sergeant in command of one. Integrity of rifle squads is maintained.

c. Unless the men of the platoon can fire to the flanks and rear from their primary individual emplacements, supplementary positions are prepared for all-ground defense. Plans are made for shifting part of the platoon to these positions. Natural cover, drainage lines, ditches, trenches, and other defilade are used for movement to supplementary positions (fig. 29).

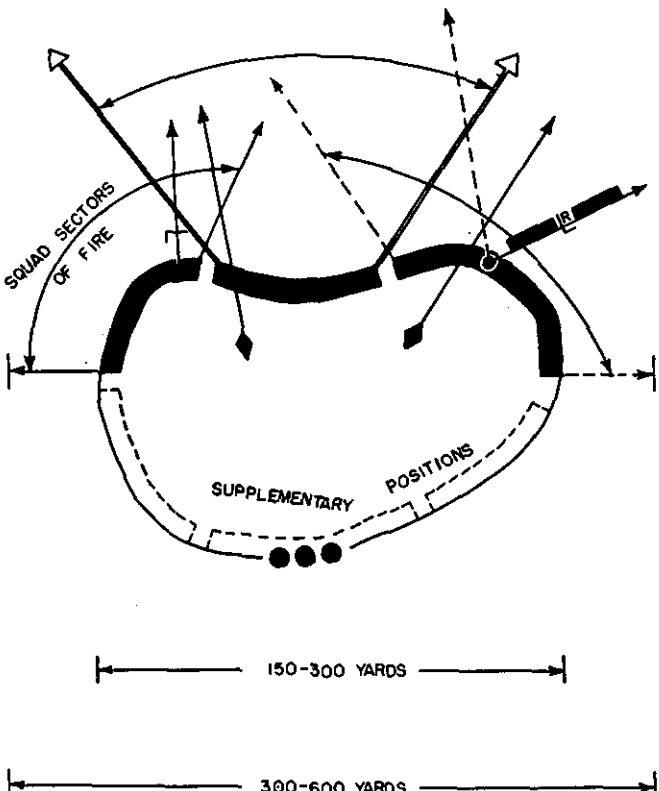


Figure 29. Rifle platoon in defense (schematic).

164. FIRE PLAN

a. The rifle platoon leader familiarizes himself with the parts of the battalion and company fire plans that affect the defense of his area. He then plans the fires of his weapons, organic and attached, to provide the maximum defense of the platoon area in coordination with the company and battalion fire plans. The rifle platoon fire plan includes the assignment and coordination of sectors of fire for each rifle squad and for weapons under the direct control of the platoon.

b. The rifle platoon leader tells his men how the fires will be controlled. Measures to control platoon fires normally include—designation of terrain features over which the enemy must pass before the platoon opens fire; signals for shifting fires or moving to supplementary positions; and signals for final protective fires.

165. COMMAND AND OBSERVATION POST

The platoon leader does not have separate command and observation posts. He selects a position from which he can best observe the front and flanks of his area and control his troops. His position preferably has cover for messengers and concealed routes to the company command post. The platoon sergeant is placed where he can best assist the platoon leader in the control of the platoon. He watches the platoon leader for commands, and controls that part of the platoon most difficult for the platoon leader to control directly. Forward observers and commanders of supporting weapons located in the

area usually station themselves within easy communicating distance of the platoon leader.

166. ORGANIZATION OF GROUND

a. When the platoon reaches its defense area, crew-served weapons are immediately mounted in temporary firing positions, fields of fire are cleared, and work is begun on the position. Weapons emplacements and foxholes are dug, and positions are concealed from air and ground observation. Covered and concealed routes for supply, communication, and evacuation are prepared as are overhead cover, alternate and supplementary positions, wire entanglements, and other obstacles if time permits. The company order normally states the sequence in which the tasks will be done. This sequence may be—

(1) Preparing foxholes and weapons emplacements.
(2) Clearing fields of fire.
(3) Constructing wire entanglements and other obstacles.
(4) Preparing routes for supply, communication, and evacuation.
(5) Laying antitank mines, trip flares, and antipersonnel mines (with engineer supervision).

b. The front-line rifle platoon distributes its fire to cover its front and flanks and part of the fronts of adjacent platoons. Each rifle squad is given a sector of fire. These sectors overlap to get complete coverage of the target area. Each automatic rifle is emplaced where it can cover the most of the squad

sector of fire and can fire across the fronts of adjacent squads. It is assigned a principal direction of fire that covers a specific terrain feature or a gap in the final protective fires of the supporting weapons.

c. The *light machine guns* are assigned sectors of fire and a final protective line. They are placed where they give maximum protection to the platoon defense area, exchange mutually supporting fires with adjacent units, and deliver final protective fires.

d. See chapter 1 for factors affecting employment of *vehicular machine guns.*

e. Tanks attached to front-line armored infantry rifle companies ordinarily occupy firing positions in or near platoon defense areas during daylight. At night they occupy positions inside the nearest platoon defense area. In some situations, the tanks attached to front-line armored infantry rifle companies may occupy positions in the rear of platoon defense areas on alert to move into previously selected positions up front. These tanks provide the main antitank protection for the front-line armored infantry units. The rifle platoon leader coordinates closely with tank unit leaders in or near his area.

f. The *rocket launchers* are assigned sectors of fire and principal directions of fire. They are placed where they can give maximum antitank protection to the platoon defense area. Their principal direction of fire is coordinated with nearby tanks.

g. The *support platoons* and platoons of the reserve company assign squad sectors of fire that complete the all around, integrated defense of the area. They cover unit flanks and gaps between units, and are prepared to fire on an enemy penetration or en-

velopment. Their machine guns are assigned principal directions of fire to cover gaps between forward defense positions, and to cover likely routes of hostile approach within the battle position. The rocket launchers are used as in front-line platoons.

167. DISPOSITION OF VEHICLES IN SUSTAINED DEFENSE

Normally, vehicles of front-line platoons and support platoons of front-line rifle companies are sent to the rear. The vehicles of all front-line elements may be grouped in covered and concealed vehicle assembly areas under company control, or they may be placed in similar assembly areas under battalion control. Platoons of companies in battalion reserve retain control of their vehicles to facilitate counterattack.

168. CONDUCT OF THE SUSTAINED DEFENSE

a. The platoon assigned a defensive mission holds its position at all costs. It withdraws only upon the verified order of the company commander. Successful defense depends on each unit holding its area. During the hostile preparatory fires, the platoon takes cover in its prepared positions, but as soon as the fires cease, all weapons are readied to meet any hostile ground attack. Fire is withheld until the enemy comes within effective rifle range (maximum 500 yards).

b. The platoon leader's duties during the conduct of the defense include—

(1) Fire control, including the opening of fires and the shifting of fires to the most dangerous targets.
(2) Requests for additional supporting fires as required.
(3) Shifting of men within the platoon position to defend it.
(4) Keeping the company commander informed of the situation.

c. Unit leaders control the fires of their units and direct them against the most threatening targets. The platoon leader maintains fire control by continuous observation and well-timed orders. If an adjacent defense area is penetrated, fire is directed against the enemy to keep him from widening the break and enveloping nearby platoons. If the platoon is threatened with envelopment, the platoon leader changes the dispositions of his men to get all-around defense of his area. Except in emergencies, nonorganic weapons in the platoon area are shifted only with approval of the commanders concerned.

169. SECURITY

The platoon provides its own local security by constant observation to the front, flanks, and rear. Enough men are kept alert at all times to maintain an effective warning system. A sentry is posted in each squad area to give warning of hostile ground or air approach. Sentries should be relieved at least once every 2 hours. Additional security measures may be prescribed in the company defense order.

Section VI. MOBILE DEFENSE

170. GENERAL

For a discussion of mobile defense see paragraphs 411 and 412. The armored infantry rifle platoon may be employed either as part of a reinforced company on the outpost system or as a part of a reinforced company in the reserve.

171. PLATOON AS PART OF A REINFORCED COMPANY ON THE OUTPOST SYSTEM

The reinforced rifle platoon occupies that part of the company sector on the outpost system ordered by the company commander. It may occupy a key terrain feature, block a critical avenue of approach, or, where there are no dominating terrain features in the platoon sector, act as a security force on a wide front.

172. REINFORCED PLATOON ON OUTPOST

The armored infantry rifle platoon (reinforced) on outpost is responsible for its own security. By constant alertness and the use of security detachments the platoon leader protects his platoon from being surprised. Security detachments may include combinations of the following:

a. Observation posts are located to give observation over the entire platoon sector. Ground and vehicular radios are used to provide communication between the platoon command post and each observation post. Observers are provided with binoculars. All observed activity is reported to the platoon

leader who in turn reports it at once to the company commander. Forward observers from the battalion and company mortar platoons and direct support artillery may have observation posts in the platoon sector; if so, their activities are coordinated with the rifle platoon leader.

b. Listening posts normally consist of two men. They give early warning of a hostile attack when visibility is restricted. Listening posts are located to cover favorable enemy approaches. Positions should be selected to provide cover, concealment, and good routes of withdrawal. Frequent reliefs keep fresh men on duty and insure an alert warning system. Listening posts replace observation posts during darkness and under conditions of reduced visibility.

c. Visiting patrols, consisting of two or three men, cover the intervals in the outpost system and maintain contact between stationary security elements. Visiting patrols contact elements of the outpost system from right to left, and at irregular intervals, to prevent the enemy from discovering the patrol system.

173. ROAD BLOCKS AND DEFENSE OF OBSTACLES

Often the reinforced rifle platoon is given the mission of establishing road blocks or defending obstacles. The force necessary for such a mission varies from a rifle squad to a reinforced platoon. Depending on the situation, the company commander may direct that the defense be maintained at all costs until a specified time or until enemy pressure threatens to overrun or outflank the position.

Troops and weapons are placed so that they can effectively cover by fire the road, the area on either side of the obstacle, and the approaches to it. In periods of good visibility positions are placed far enough from the road or obstacles to avoid the zone of dispersion of enemy fire directed at the road or obstacle. During periods of poor visibility, positions are occupied closer to the obstacle but beyond hand grenade range. An observation or listening post is established to give adequate warning of the approach of an enemy force. The leader places guards to warn friendly personnel of the obstacle or to prevent unauthorized personnel from going beyond it. He maintains contact with his commander and promptly notifies him of enemy action and developments in the situation.

174. FIRE PLAN

The platoon leader familiarizes himself with the company fire plan, and fits the platoon plan into it. His fire plan includes the use of the organic platoon weapons, tanks, attached weapons, and the vehicular weapons. Rocket launchers are used to—

a. Cover likely avenues of approach for enemy armor *not* covered by friendly tanks.

b. Provide close-in defense of crew-served weapons and vehicles not protected by friendly tanks.

c. Defend command posts, aid stations, or supply points.

d. Engage enemy crew-served weapons and massed personnel. (Ammunition supply may restrict this secondary mission.)

175. DISPOSITION OF CARRIERS

In mobile defense, carriers remain with their platoons. Their disposition or use is the responsibility of the platoon leader. Vehicles are not exposed needlessly. However, they are kept where they will be readily available to the squads at all times.

176. CONTROL

The platoon leader controls his platoon by radio, messengers, and prearranged visual signals.

177. CONDUCT OF MOBILE DEFENSE

As soon as the enemy comes within range he is brought under fire. The platoon leader requests the preplanned fires of the mortars and artillery on areas where the enemy may be entering. He also uses preplanned fires as reference points to request additional fires. The platoon does not withdraw, even under pressure, without orders or approval from the company commander. When the higher unit reserve counterattacks, the platoon supports the counterattacking elements by fire.

178. PLATOON AS PART OF REINFORCED COMPANY IN BATTALION RESERVE

The platoon that is part of a reinforced company in battalion reserve is at first located in the battalion reserve area. It may be used to assist in blocking hostile penetrations; it may be used to reinforce existing outposts; or it may be used to participate in the counterattack if the battalion is in combat command (division) reserve.

CHAPTER 7

THE 60–MM MORTAR PLATOON

Section I. GENERAL

179. ORGANIZATION AND DUTIES

The 60-mm mortar platoon consists of a platoon headquarters and three 60-mm mortar squads. The platoon headquarters is mounted in a ¼-ton truck with trailer. Each squad is mounted in an armored personnel carrier.

a. The *platoon leader* is responsible to the company commander for the discipline, training, and control of his platoon; for the maintenance and efficient operation of its vehicles; and for its success in battle. He advises the company commander on the use of his platoon and controls its actions through appropriate orders. He goes where he can best influence the action of his platoon; however, since his squad will normally be attached to or in direct support of the assault platoons, he acts principally as an advisor to the company commander and platoon leaders on the tactical employment of the mortars. When the mortar squads are in direct support of the assault platoons, he supervises their employment; when in general support, he personally controls their fire.

b. The *platoon sergeant* is second in command of the platoon. He keeps abreast of the platoon's tac-

tical situation, supervises ammunition supply, and assists the platoon leader in observation and fire control. He assumes command during the absence of the platoon leader.

c. The ¼-ton truck *driver* is used by the platoon leader to operate the vehicular voice radio in the absence of the platoon leader and to transport ammunition with the truck and trailer in emergency.

180. DUTIES OF SQUAD LEADER

The *squad leader* is responsible for the training, discipline, and conduct of the members of his squad. He moves his squad to its position area, selects and supervises the preparation and occupation of the exact firing position, and uses his carrier and ammunition bearers to supply ammunition. When his squad is in general support of the company, the squad leader supervises the operation of his squad. When his squad is in direct support of, or attached to, an assault platoon, the squad leader supervises the employment of the squad and controls, observes, and adjusts its fire.

181. CONTROL

a. The amount of control the platoon leader exercises over the platoon depends on the time available to reconnoiter and to issue orders, on the number of elements of his platoon detached to assault elements, on his ability to observe the zone of action, and to contact his units, and on the speed and intensity of the action.

b. In the attack the platoon may be used in general support of the company to increase the flexibility of fires and to insure continuity of supporting fires during displacement. However, because of limitations of terrain and difficulty in maintaining control, the squads of the 60-mm mortar platoon may be placed in direct support of or attached to the assault platoons. When the mortar squads are attached to rifle platoons, control passes to the leader of the unit to which they are attached. The mortar platoon leader helps the rifle platoon leaders by using his platoon headquarters personnel to locate firing positions and targets, by getting firing data, and by handling ammunition supply.

c. In the defense, when sectors of fire and observation are not limited, the most effective fire and control are obtained by using the 60-mm mortar platoon in a platoon position in general support of the company. Normally firing positions are then in the vicinity of the support platoon. When sectors of fire and observation are limited so as to prevent coverage of the company front, the platoon may be divided and mortars placed in the front-line platoon areas.

182. CONDUCT OF FIRE

The 60-mm mortar platoon may be given definite targets or target areas. Since the platoon normally is used by squads, definite targets are assigned to each squad. The fire of each squad is conducted by its squad leader, in coordination with the supported rifle platoon leader. Each 60-mm mortar usually

is located within voice distance of the squad leader (observer). When the platoon is used in general support, the squads are assigned and engage target areas as directed by the mortar platoon leader. Fire is conducted as explained in FM 23–85.

183. OBSERVATION

Observation for the 60-mm mortar squads in direct support of or attached to the rifle platoons is obtained and maintained by the squad leaders who conduct the fire of their respective mortars. Each observation post must provide observation of friendly troops and observation of the target area or sector of fire. It must be within voice or arm-and-hand signaling distance (100 yards) of the mortar position. Communication between the mortar squad leader and the supported rifle platoon leader is by radio. When in general support of the company, the fires of the platoon are controlled, observed, and adjusted by the platoon leader from a platoon observation post that provides observation of the company zone of action. Communication between the platoon observation post and the mortar positions is by voice, signal, radio, or available sound-powered telephones.

Section II. PREPARATION FOR THE ATTACK

184. GENERAL

a. Before the attack, the platoon may be directed to halt in a covered or defiladed area designated by the company commander. This area is part of the company or battalion assembly area. While the

platoon is preparing for the attack under the supervision of the platoon sergeant, the platoon leader, accompanied by a messenger, goes forward with the company commander to plan the attack.

b. The company commander may order the mortar platoon to occupy firing positions to protect the assembly area, or the weapons may remain on carriers within the platoon area. This decision depends on the tactical situation, the length of time the unit will remain in the assembly area, and the availability of battalion and other supporting weapons for protection of the assembly area. The 60-mm mortar platoon rarely occupies firing positions when the company is in a battalion assembly area. The mortars then remain on the carriers in the platoon area.

185. COMPANY COMMANDER'S ORDERS

Based upon recommendations from the mortar platoon leader, the company commander uses the mortar platoon to further the company plan of attack. This decision is issued as a part of the company attack order. The order gives specific missions, platoon position areas, targets or sectors of fire, attachments to assault platoons, time of opening fire, and plan of reorganization. It may give the conditions governing displacement, and provisions for ammunition resupply.

186. TACTICAL EMPLOYMENT

The fires of the mortar platoon are coordinated at first by the company attack order. The 60-mm mortars are usually placed in squad positions where

they can engage targets that are holding up the advance of the assault platoons. The mortars usually are displaced by squad when their fires can no longer give close support. After capture of the objective, the 60-mm mortars protect the reorganization of the company and assist in breaking up hostile counterattacks.

187. SELECTION OF FIRING POSITIONS

Desirable characteristics of firing positions for the 60-mm mortars include—

a. Locations within effective range of targets or target areas.

b. Mask clearance of hills, trees, buildings, and similar obstacles to high-angle fire.

c. Cover and concealment from enemy observation and fire. Fully defiladed positions furnish protection from enemy flat trajectory fire. Holes and ditches offer some protection from high-angle fire.

d. When in a platoon position, dispersion between guns to prevent two from being hit by one enemy shell. Dispersion is limited by the available control methods.

e. Covered routes to the position for occupation and ammunition resupply.

f. A covered and concealed observation post for the mortar observer within communication range of the firing position.

188 TARGETS

Primary targets for 60-mm mortars are point targets, such as crew-served weapons and small groups

of enemy personnel—particularly those in defilade. The 60-mm mortars are effective against small area targets but are not used to search large areas. The WP shell may be used to screen specific points (embrasures of pillboxes or street barricades). In built-up areas, the mortar may be used against rooftop targets. It is also used against defiladed targets that are too close to friendly troops for 81-mm mortars or artillery, but still at least 100 yards from friendly troops. The distance should be increased to 200 yards when the mortar is more than 300 yards behind our own front line.

189. ORDERS

a. The *platoon leader's* orders include as much of the following as is necessary:

(1) Information of the enemy and friendly troops, including the expected action of the maneuvering force and the position and missions of the battalion mortar platoon.
(2) Mission of the platoon.
(3) Orders to the squads, to include—
  (*a*) Initial position areas.
  (*b*) Assault elements to which squads are attached or to which support is to be given.
  (*c*) Route or unit to be followed.
  (*d*) Positions for carriers to be used for fire support or flank protection.
  (*e*) Initial targets or sectors of fire.
  (*f*) Time of opening fire.
  (*g*) Displacement and reorganization.

(4) Instructions about ammunition supply, location of the battalion aid station, and any other necessary administrative matters.
(5) Instructions about signal communication, including prearranged signals. Location of the platoon leader and the company commander.

b. Each *squad leader* includes in his attack order the items of the platoon order that pertain to his squad. After the initial firing position has been occupied, he issues the fire command for engaging the first target.

Section III. THE ATTACK

190. MOVEMENT INTO FIRING POSITIONS

The 60-mm mortar platoon usually can move by carrier from the assembly area to the first position area. The weapons, accessories, and starting supply of ammunition are unloaded and hand carried to exact firing positions selected by the squad leaders. The squad leaders supervise the preparation and occupation of the firing position. Ammunition bearers are dispersed near the firing position when not engaged in the resupply of ammunition.

191. SUPPORTING FIRES DURING THE ATTACK

Before the attack, the 60-mm mortars may fire prearranged concentrations. During the attack they engage targets as directed by the company commander, the platoon leader, or the squad leaders. During the assault the 60-mm mortars fire on targets on the flanks or beyond the objective.

192. DISPLACEMENT

The platoon and squad leaders continuously make plans for displacement. When the mission assigned can no longer be accomplished from initial positions, displacement is made with a minimum interruption in fire support. The 60-mm mortars ordinarily displace by squads. Whenever possible, displacement of weapons and ammunition is made by carrier. When the platoon is operating under platoon control, and displacement is anticipated, the platoon leader makes a personal reconnaissance and designates a new general position area to the squad leader. The squad leaders move their squads forward, using covered routes, and select the exact firing positions for their squads. When not operating under platoon control, a squad leader advances his squad to new positions when the progress of the attack makes it impossible to continue firing on the assigned mission or sector from the old position. Forward displacement is made aggressively, the squad frequently moving close behind the platoon from one point of observation to another.

193. REORGANIZATION

a. Preparation to Defend Against Counterattack. As soon as the hostile position is captured, or the attack is halted for any reason, mortars and carriers are placed in positions to protect the front and flanks of the assault elements against counterattack.

b. Preparation to Continue the Attack. After the mortars have been emplaced to fire on enemy counterattacks, the platoon leader prepares to continue the attack. He has his squad leaders replace

key personnel who have become casualties within their squads, check the condition of weapons, and redistribute ammunition. Concurrently, the platoon leader replaces leaders within the platoon who have become casualties. The squad leaders report the strength of the squads and their weapon and ammunition requirements. The platoon leader, in turn, reports the platoon requirements. When ordered to continue the attack, action is similar to the action before the first attack.

Section IV. DEFENSE

194. TACTICAL EMPLOYMENT

a. The *60-mm mortars* are used to assist the rifle platoons in the defense of their areas. Normally, the 60-mm mortars are used by squad. When the entire company front can be covered with the mortars in one firing position and when observation can be obtained over the front and flanks of the company sector from a single observation post, the mortars may be emplaced so that fires can be conducted under platoon control. Squads may be attached to rifle platoons. The company commander's order for defense designates the squads to be attached to rifle platoons and those to be held under company control. When a mortar squad is attached to a platoon, that platoon leader directs its action. However, barrages are assigned the squads by the company commander; these barrages take precedence over other fires.

b. The *missions* of the 60-mm mortars of a front-line rifle company in sustained defense are to—

(1) *Cover the assigned sector.* The mortars give close support to the forward defense areas by firing (concentrations) on targets of opportunity—particularly those in defilade—to break up a hostile attack before it reaches the battle position.

(2) *Take part in the battalion coordinated fire plan.* Mortar barrages fill gaps in the final protective fires of the battalion fire plan. If no gaps exist within the company area, barrages strengthen the final protective fires in the most dangerous areas of approach within the company sector.

(3) *Assist in limiting penetrations.* Concentrations are planned within the company defense area to limit an enemy penetration of the main line of resistance.

(4) *Support counterattacks.* Concentrations are used to block off the penetrated area or to give close support to a counterattack force.

195. SELECTION OF POSITIONS

a. If practicable the platoon leader accompanies the company commander on his reconnaissance and makes recommendations for the use of the mortar platoon. Based on his own reconnaissance and the recommendations of the platoon leader, the company commander's defense order assigns missions and the general locations of the mortar platoon.

b. Firing positions selected for the mortars must—

(1) Be defiladed from hostile view.

(2) Permit the accomplishment of the assigned mission.

(3) Provide observation close to the mortar position.

c. The mortar is emplaced approximately within 100 yards of the observer. The firing positions are well forward and are included in or directly protected by the rifle platoon defense areas. Ammunition bearers armed with rifles afford close protection. Communication (voice or telephone) is established between the mortar observers and the company commander or platoon leader, depending upon which is controlling the fire. If attached to a rifle platoon, the observer's position is near the platoon leader's observation post.

d. When the entire company front can be covered from one firing position and observed from one observation post, the mortars may be fired under platoon control.

e. After receiving the company commander's order, the platoon leader issues his order and directs the squads to move to their firing positions. The platoon leader precedes the rest of the platoon to the defense areas to coordinate the use of the mortars and the selection of firing positions. Firing positions selected for the 60-mm mortars in defense have the same general characteristics as those selected in the attack.

196. SECTORS OF FIRE AND TARGET AREAS

Each 60-mm mortar squad is assigned a sector of fire, one barrage, and any number of concentrations.

The three squad sectors overlap to cover the entire company front. The sector of fire assigned to a 60-mm mortar should not exceed 1,200 mils. The company commander normally uses the barrages to close small gaps in the machine-gun final protective lines. The barrages are 50 yards square and normally are located at least 100 yards forward of the front-line elements. The platoon leader assigns concentrations and sectors of fire according to the company plan of defense. These concentrations are planned both forward of and within the battle position. Concentrations are considered to be 50 yards in diameter.

197. ORDERS

a. The *platoon defense order* is based on the company order and the reconnaissance of the platoon leader. It is issued to the squad leaders and other key members of the platoon. When practicable, the platoon leader issues his order from a position where he can point out to each squad leader the selected firing positions, sectors of fire, and locations of adjacent troops. The platoon leader supervises the coordination and execution of his orders. The defense order follows the general form for the platoon attack order and contains the following additional instructions:

(1) Barrage and concentration areas, and sectors of fire for the 60-mm mortars.

(2) Instructions for final protective fires to include the method of calling for these fires, a location from which visual signals for

fires are given, and the rates and duration of fire.

(3) Organization of the ground, including types of emplacements to be constructed.

b. The squad leaders base their orders on the platoon order and on their own reconnaissance. The squad leaders select exact positions for the mortars, check for mask and overhead clearance, and issue orders for preparing and camouflaging primary, alternate, and supplementary positions.

198. LOCATION OF LEADERS

a. The *platoon leader* places himself where he can best observe and control the units of his platoon under his control. His position should permit easy communication with the company commander. Normally, the platoon leader is at or near the firing positions of the 60-mm mortars. When observation is restricted near the mortar positions, he may establish an observation post for better observation of the company sector.

b. Mortar squad leaders act as forward observers, with their observation posts within the rifle platoon areas where they can best observe their assigned sectors. A squad leader who is not acting as an observer assists in the control of fires at the mortars.

199. OCCUPATION AND ORGANIZATION OF FIRING POSITIONS

a. Arrival at the Position. When squads arrive at their assigned locations, the firing positions and

sectors of fire of the weapons are shown to the squad leader. Each squad leader at once mounts his weapon in a temporary firing position, prepared to open fire to cover his assigned sector. As soon as the weapons are mounted in their temporary position, the primary firing positions are constructed, camouflaged, and stocked with ammunition. The weapons are then mounted in their primary firing position.

b. Priority of Work. The primary mortar positions and the observation posts are constructed first. Foxholes for the ammunition bearers are then prepared. Alternate and supplementary positions are then constructed. If the situation permits, each mortar is registered on its barrage and on as many concentrations as necessary. Before registering, coordination with security elements, reconnaissance parties, and work details forward of the battle position is necessary. Firing data is recorded by the squad leader. One copy of each firing data sheet is kept by the squad leader and one copy is given to the platoon leader. The platoon leader then gives the company commander a firing data sheet showing the prepared mortar fires. After the company commander has approved these planned fires, or has made necessary changes, he has copies of the firing data sheet distributed to designated personnel of the company and to the battalion commander. The platoon leader prepares and provides the company commander with a sketch showing the prepared mortar fires.

c. Camouflage. Camouflage is constructed concurrently with the other defensive works. Spoil not used in construction is disposed of immediately.

Parapets are tramped down and sodded. Men avoid making new paths to installations.

d. Ammunition Storage. Dry, concealed ammunition shelters are constructed within or near the mortar emplacements.

200. CONDUCT OF DEFENSE

The 60-mm mortars are first laid to fire where suitable targets are most likely to appear. If the enemy succeeds in driving back our security elements, the mortars are then laid on their barrages when not firing other missions. As the enemy advances, observers call for fires on suitable targets within their sectors. Mortars located behind front-line platoon areas open fire as soon as targets are within range. Mortars located within front-line platoon areas may withhold fire until the front-line platoons open fire. If final protective fires are called for, the mortars fire their barrages. If the barrage of any mortar is not within the area where the final protective fires are needed, that mortar fires the concentration that most effectively reinforces the final protective fires. If the enemy penetrates any portion of the battle position, the mortars fire in the area of penetration, to disrupt and destroy the enemy and prevent a widening of the penetration.

201. RESUPPLY

a. Resupply during a *sustained defense* normally is done at night. Ammunition and other needed supplies are carried as far forward in cargo trucks as the tactical situation permits. They then may

be carried by ¼-ton truck and trailer to the mortar positions. If the tactical situation prohibits the use of the ¼-ton truck, hand carry is used. In exceptional situations, resupply may be needed during daylight. The same procedure is used but supply vehicles may not be able to come as close to the mortar positions as during darkness, thereby requiring longer hand carrying.

b. In a *mobile defense*, ammunition is not stored in large quantities at the positions. However, in mobile defense the carriers are readily accessible to their squads. The bulk of the ammunition is kept on the carriers and unloaded as needed. Resupply is made by refilling the ammunition compartments of the carrier. Cargo trucks from the combat trains carry ammunition and other supplies, during daylight or darkness, as close to the mortar positions as possible. The ¼-ton truck and hand carrying are used to move supplies from this point to the mortar positions.

CHAPTER 8

ARMORED INFANTRY RIFLE COMPANY IN OFFENSIVE COMBAT

Section I. GENERAL

202. ORGANIZATION, MISSION, CHARACTERISTICS, AND CAPABILITIES

See paragraphs 1–40.

203. COMPANY COMMANDER

a. The company commander commands his company. By his character and skill, he gives positive leadership to his company and maintains its discipline, welfare, and contentedness. He actively supervises the training of all elements of his company and insures its proper administration and the procurement and maintenance of equipment. To assist him in carrying out these responsibilities he makes full use of the company's chain of command. In assigning duties to his leaders, he considers their individual capabilities and personalities, developing in them a high degree of initiative and personal responsibility. He builds his company into a well coordinated team.

b. He continually estimates the situation, having in mind all practicable courses of action. By directive, or by recommendation to his commander, he

initiates action on any matter concerning his company, and vigorously follows it through to a conclusion.

c. To accomplish his mission, he uses all means at his command and requests additional means whenever they can be well used in his area of responsibility. Without awaiting orders he coordinates with any other unit or agency.

d. In the battle area he uses observation, patrols, liaison, and personal reconnaissance to maintain security and prepare for future operations. He assigns definite missions to his lower unit leaders and keeps himself informed about their actions in order to give assistance when needed and to insure the success of his plan. He goes where he can best control the action of his company as a whole, yet is personally present at critical times and places where he can best influence the action. He alone is responsible to the battalion commander for all that his company does or fails to do.

204. EXECUTIVE OFFICER

The executive officer also is company motor officer. As second in command of the company, he keeps abreast of the situation and replaces the company commander if necessary. He is responsible to the company commander for the operation of the command post and for all maintenance functions within the company. By close supervision of maintenance, frequent spot checks, and inspections, he assures himself that proper maintenance procedures are carried out. He maintains liaison with the battalion motor

officer from whom he receives technical advice, assistance in the recovery and repair of company vehicles, and aid in the procurement of spare parts.

205. UNIT ADMINISTRATOR

The unit administrator is a warrant officer assigned to the company to supervise administration for the company commander and company executive officer. His functions include supervision of—

a. Mess management.

b. Supply functions.

c. Communication.

d. Company administration.

e. Such other duties as assigned by the company commander.

206. DUTIES OF NONCOMMISSIONED OFFICERS OF COMPANY HEADQUARTERS

a. Company Headquarters Section.

(1) The *communication sergeant* is the company commander's main assistant in communication matters. For specific duties, see paragraph 31.

(2) The *bugler.* The duties of the bugler are discussed in paragraph 32.

b. Maintenance section.

(1) The *motor sergeant*, working under the executive officer (motor officer), is in charge of all vehicular maintenance done by the company. He is also responsible for drawing motor parts.

(2) The *tank mechanics* are trained and equipped to work on the tracked vehicles of the company.

(3) The *automotive mechanics* are trained and equipped to work on the wheeled vehicles of the company and to assist the tank mechanics when necessary.

(4) The *armorer* repairs equipment, machine guns, and individual arms. He maintains adequate tools, spare parts, and accessories for the timely repair of these weapons.

(5) The *radio repairman*. For detailed duties, see paragraph 122.

c. Administrative, Mess, and Supply Section.

(1) The *first sergeant* assists the company company commander and the unit administrator in their administrative duties. He is in charge of the command post when no officers are present.

(2) The *mess steward* supervises the cooks in the preparation and serving of meals. He is responsible for drawing or receiving rations.

(3) The *supply sergeant* draws, checks, issues, and accounts for supplies other than rations and motor parts.

(4) The *company clerk*, the first sergeant's administrative assistant, maintains the company records.

(5) The *cooks* prepare and serve the meals under the supervision of the mess steward.

Section II. PREPARATION FOR THE ATTACK

207. GENERAL

Before the attack of an organized position the company usually halts in a covered assembly area designated by the battalion commander. Teams are formed and communication is established while there. When the reinforced company attacks from march column to exploit a situation, it normally moves directly to its attack position without occupying an assembly area. Normally, while the company is preparing for the attack, the company commander joins the battalion commander to receive the attack order. He usually takes with him the individuals necessary to plan the attack, including the mortar platoon leader, the communication sergeant, and a messenger. One officer, usually the executive officer, remains with the company. For the commander's estimate of the situation and troop leading procedure, see paragraphs 38 and 39.

208. BATTALION ATTACK ORDER

The company usually attacks as a reinforced company of a reinforced tank or reinforced armored infantry battalion. The battalion order tells whether the company is in the assault or in reserve, and it gives the supporting and attached units. If the company is in the assault, it is given a definite objective or series of objectives, a line of departure, a definite zone of attack, a direction of attack, and the time of attack. If the company is in reserve, it is assigned a mission and initial location.

209. RECONNAISSANCE AND EVALUATION OF THE TERRAIN

Reconnaissance within the reinforced company is conducted jointly by the tank and armored infantry unit commanders. The company commander makes a personal reconnaissance and allows enough time for reconnaissance by team leaders. Through his reconnaissance and terrain analysis he seeks—

a. Positions for supporting weapons and carriers.

b. Routes of attack in the assigned zone suitable for use of armored vehicles.

c. Position areas for tanks supporting overhead or flanking fire.

d. Location of obstacles likely to hinder the advance of vehicles and dismounted troops.

e. Location of an assembly area, preferably in or near the attack position, for carriers not used for fire support in a dismounted action.

f. Location of the attack position.

g. Location of vehicular and foot routes of approach.

210. PLAN OF ATTACK

a. The *plan of attack* includes the plan of maneuver and the plan of fire.

b. The *plan of maneuver* includes—

(1) Initial and subsequent objectives for assault elements.

(2) Position for launching the assault.

(3) Position where assault elements dismount from carriers.

(4) Attack positions.

(5) Line of departure.
(6) Routes to objective.
(7) Formation for the assault elements.
(8) Organization of tank-armored infantry teams (reinformed platoons).
(9) Designation of support elements, their initial mission and location (fig. 30).

c. The *plan of supporting fires* is designed to support the plan of maneuver. These fires are delivered to neutralize the enemy and permit the rapid advances of the maneuvering force. A forward observer from the supporting armored artillery battalion works closely with the company commander to develop an artillery fire plan. The company plan of supporting fire includes the fires available from the battalion mortar platoon. A small tank unit may be used to provide direct fire support for the maneuvering tank-armored infantry teams. The vehicular machine guns of the carriers provide additional fire support either from the carriers or from ground mounts (fig. 31).

211. OBJECTIVES

The battalion attack order usually directs the seizure of a terrain objective or a series of terrain objectives. The commander of the reinforced company coordinates the effort of the company by assigning successive objectives to the assault platoons. Each assault element is assigned, as its initial objective, the nearest terrain feature or hostile position, within its zone of action, which must be captured to accomplish the company mission. Platoons may be

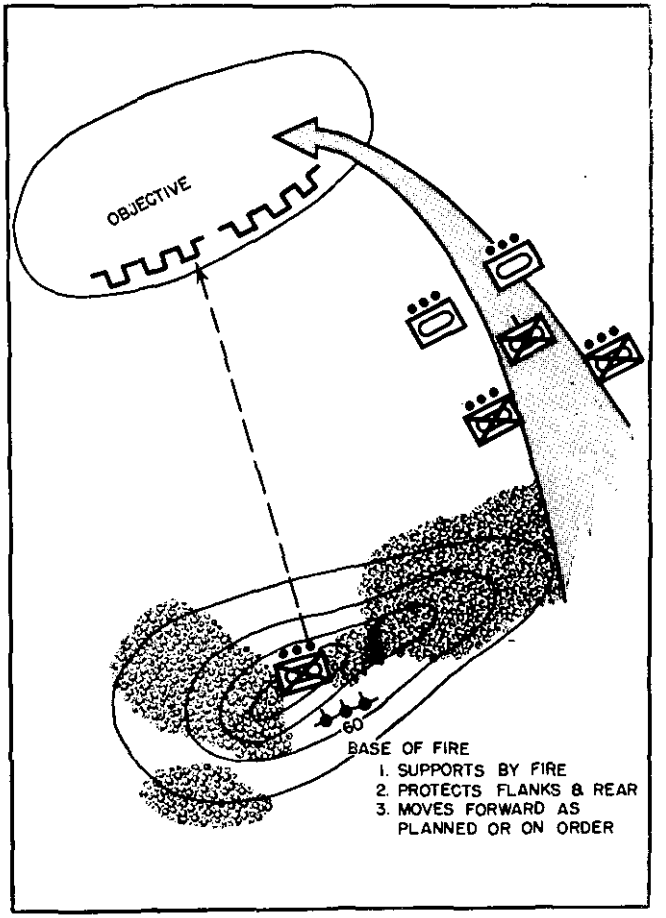


Figure 30. Elements of the attack—reinforced company.

directed to continue their attack against other definite objectives after their initial objectives are captured. If the company commander wants to control

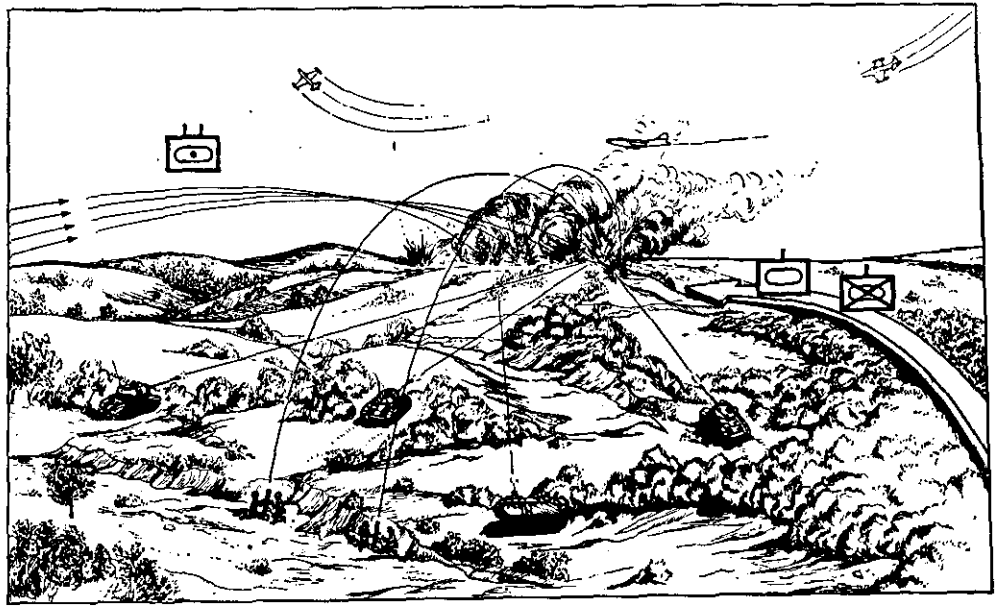


Figure 31. Supporting fires.

the action more closely, the platoons may be directed to be prepared to continue the attack on company order. Depending on the terrain, there may be several successive platoon objectives to be captured before reaching the initial company objective.

212. LINE OF DEPARTURE

The battalion order designates a line of departure from which the company is to launch its attack. *Considerations in selecting a line of departure* are—it must be easily recognized on the ground; it should be behind a line held by friendly elements; and it should be perpendicular to the direction of attack. However, the prime requisite is that it be so located that the attacking force can get its assault fully launched before enemy interference is encountered. Separate lines of departure may be prescribed for different elements, to take advantage of terrain features and to achieve proper timing or convergence of effort.

213. ZONES OF ACTION

a. The battalion commander ordinarily does not designate boundaries between companies, but the company remains within the battalion boundaries. Entry into an adjacent battalion zone must be coordinated with the commander of the adjacent unit, by the battalion commander, or in his absence, by the company commander. To make a flank attack, a company commander may move elements of his company behind an adjacent company within the battalion sector. This is ordinarily done by coor-

dination between the two company commanders concerned.

b. Each platoon or reinforced platoon in the assault echelon is given a general zone of action by assigning it a section of the line of departure or an area from which to start its attack, a direction of attack, and a definite terrain objective or series of objectives to be captured (fig. 32). Boundaries are seldom prescribed between platoons. However, in some cases the tactical situation and the terrain may necessitate assigning a zone of responsibility in yards.

214. FORMATIONS FOR TANK-ARMORED INFANTRY TEAM ATTACKS

a. General. When a reinforced company attacks as a tank-armored infantry team, the formation depends on the task organization of the company, the method of attack being used, the mission, the width of the company zone of action, the terrain, the enemy situation, and the need for security.

b. Two Reinforced Platoons in the Assault. The company may attack with two reinforced platoons in the assault and one in support. This formation enables the team to deliver a strong attack while keeping a support to influence future action. The support platoon may be used initially to support the attack by fire.

c. Two Rifle Platoons in the Assault Supported By the Attached Tank Unit. This formation is used to attack a position that has a protective belt of antitank obstacles or mine fields. The company commander uses the attached tanks to support the

Figure 32. Each platoon or reinforced platoon in the assault (maneuvering force) is assigned a definite zone of action, line of departure, frontage, direction of attack, and objective.

assault platoons by fire. When lanes through the obstacles have been prepared, the tanks move forward to join the assault platoons. A rifle platoon is also available as a support. It may be used initially to support the attack by fire.

d. One Reinforced Platoon in the Assault, Two in Support. This formation is used when the front is narrow, the situation is obscure, or one or both flanks are exposed. The reinforced company may be in a column of platoons, as in exploitation, or echeloned in the direction of the exposed flank or flanks.

e. Three Reinforced Platoons Abreast. This formation can be used initially when the reinforced company is assigned a broad front against relatively weak opposition or is part of a larger maneuvering force attacking a strong position.

215. FORMATIONS FOR DISMOUNTED ATTACKS WITHOUT TANKS

The armored infantry rifle company may attack without tank support. Such attacks may be required by terrain and obstacles that prohibit tank employment, or where stealth is desired in which case neither carriers nor tanks are used. The formation used for the attack depends on the mission of the company, the width of the zone of action, the reinforcements and supporting fires, the terrain, the knowledge of enemy dispositions, and the need for security.

a. By using a formation with two rifle platoons in assault and one in support, the company can deliver a strong attack while keeping a support to influence future action.

b. One rifle platoon in assault and two in support is often used when the company has a very narrow zone of action, when it is operating on an exposed flank, or when the enemy situation is obscure. In this formation, the support platoons may be in column behind the leading platoon; they may be echeloned behind the leading platoon toward an exposed flank; or, if both flanks are exposed, one may be echeloned to each flank of the leading platoon.

c. Conditions may require the use of all three platoons in the assault, but not necessarily abreast. A formation for the initial attack with all three rifle platoons abreast is exceptional, but may be used when the company is assigned an extremely broad zone of action and the enemy situation is known. It also may be used to attack a limited objective.

216. ATTACK POSITIONS

The company attack position is the last position occupied by the company before crossing the line of departure. Cover and concealment are desirable. The general location of the attack position is usually given by the higher commander, but the company commander must make the final selection and disposition of units within the position. The desired characteristics of an attack position are similar to those for an assembly area, except that it is closer to the line of departure. In the attack positions, final details for coordination in the attack are completed. The minimum length of time is spent in the attack position. Occupation of and movement from the attack position is done with maximum secrecy.

217. ATTACK ORDER

a. Oral attack orders are issued after making the reconnaissance and preparing the plan. The platoon leaders, attached unit commanders, liaison personnel, artillery forward observers, and the company communication sergeant usually receive the order. When practicable, the first sergeant, platoon sergeants, supply sergeant, and other key noncommissioned officers are present. Warning and fragmentary orders are used often to further the prompt, continuous action needed in the employment of tank-armored infantry teams (app. II).

b. The attack order, issued in the 5-paragraph operation-order sequence includes—

(1) Information about the enemy and friendly troops.

(2) Company mission. Details of coordination include—

(*a*) Formation.

(*b*) Time of attack.

(*c*) Attack position, line of departure, direction of attack.

(3) Tasks for all lower units either organic or attached. Instructions given include—

(*a*) Support.

(*b*) Missions of supporting and vehicular weapons.

(*c*) Use of vehicles or their disposition.

(*d*) Security measures.

(*e*) Liaison with adjacent units.

(4) Location of battalion aid station, orders for company maintenance section, and other administrative details.

(5) Initial location of company command post and special signal instructions.

Section III. THE ATTACK

218. BATTLE RECONNAISSANCE IN THE ATTACK (fig. 33)

Battle reconnaissance is continuous. It begins when contact is made with the enemy and continues until the end of the engagement. It is carried on by leaders, commanders, observers, and all men within the team. Because of the restricted view through periscopes and vision slits, vehicle commanders observe with heads out of their vehicles. Where possible, members of the vehicular crews are assigned sectors of observation to provide all-around observation. They report enemy positions. Dismounted armored infantry relays enemy information to the tank crews by external tank interphone, radio, arm-and-hand signals, or other prearranged methods. The tank commander and the armored infantry squad leader keeps close personal contact. Suspicious locations are taken under fire to destroy the enemy or make him disclose his position, either by returning the fire or by moving. The tank machine guns and carrier machine guns are used on targets at short ranges. The tank gun is used on more distant targets.

219. ATTACKING ENEMY ARMOR

a. General. Success in attacking enemy armor is often obtained by gaining surprise with the first

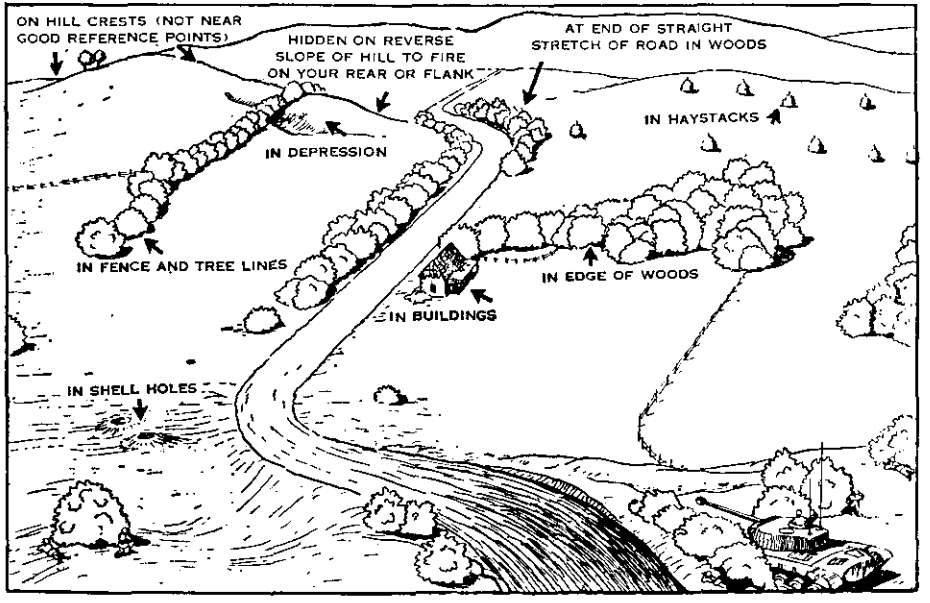


Figure 33. Probable enemy antitank gun positions.

aimed shot in the encounter. Tanks resupplying for the attack, in march column, or reorganizing after an attack, are vulnerable to surprise attack. Surprise may also be obtained by speed, concentration of fire, and shock action in the attack, and by reconnaissance to find weakness in the enemy security system.

b. Ambush. In some situations it is possible for the tank elements of the tank-armored infantry team to ambush enemy tanks with flanking fire from covered or concealed positions. On such an occasion, each tank is given a definite target. Tanks fire the first round on order of the team commander to gain complete surprise. From this moment on, the team uses fire and maneuver to destroy any enemy tanks left.

c. Coordinated Attack. The assault usually is directed at one or both of the hostile flanks. Artillery, assault gun, and mortar fires are used to neutralize enemy weapons and personnel. Smoke is used to blind enemy observation and screen maneuvering forces. When artillery support is not available, the team commander uses part of his tanks as a base of fire while he attacks with the rest. Armored infantry ordinarily should not become involved in tank-versus-tank actions, because it is relatively helpless if caught in the open. However, small detachments of determined armored infantry, armed with rocket launchers and antitank rifle grenades, may fire from strong buildings or tank-proof ground to secure the flanks of friendly tanks. Snipers and machine guns may be used against exposed enemy tank commanders to destroy crews of

disabled tanks and to force tanks to button up. The armored infantry also operates against the enemy infantry.

d. Decoys. When enemy tanks occupy a position that would be difficult and costly to attack, it may be possible to decoy them out. Small lightly armed elements advance on the enemy position and withdraw in pretended confusion when fired on. The enemy armored units that pursue them are counterattacked or ambushed. The enemy may also be lured into attacking some apparently unprotected armored infantry or supply vehicle.

220. ATTACK OF ENEMY ANTITANK WEAPONS

Direct fire is employed against enemy antitank gun positions whenever possible. Although it is desirable to attack antitank weapons by maneuver to their flanks or rear, care is taken to keep the maneuvering element from becoming engaged with other mutually supporting hostile antitank weapons. Smoke is used to blind hostile gun crews and high-explosive and machine-gun fire is used to destroy or neutralize them. Since enemy antitank guns are often protected by mines, tanks do not overrun the guns, but destroy them with short-range, high-explosive fire. When covered approaches permit the dismounted armored infantrymen to get close to the hostile gun, rocket launchers and other infantry weapons are used. The armored infantry also assists by locating the enemy tanks and self-propelled guns and designating them as targets to the tanks of the team. When the location of unarmored antitank guns is such that tanks cannot destroy them, the

dismounted armored infantry move in, supported by tank fire, and destroy the crews with infantry weapons.

221. ATTACKING THROUGH OBSTACLES AND ANTI-TANK MINE FIELDS

When a reinforced tank or armored infantry battalion has the mission of attacking through mine fields or obstacles, the battalion commander uses reinforced armored infantry companies to gain a bridgehead on the far side of the obstacle. As soon as the bridgehead is gained, armored engineers, often assisted by armored infantry, reduce the obstacle and mark the gap. Artillery and mortars provide fire support during the operation. As soon as the obstacle is breached, the tanks and other vehicles pass through it and rejoin their units.

222. ATTACK FROM MARCH COLUMN

a. The attack from march column differs from the coordinated attack in that there is no time for detailed reconnaissance and planning. Instead the tank-armored infantry team must attack swiftly and in mass, getting full effect of shock action with a minimum of delay. An attack from march column demands speed and aggressiveness. The initiative must be seized and kept. Lacking specific orders, the company commander or the platoon leader takes whatever action is required to carry out his assigned mission.

b. For speed and aggressiveness, and to keep the initiative, elements are placed in the column in the

order of their expected employment. Before the advance, the company commander organizes his reinforced company into reinforced platoons of tanks, armored infantry, and, in some instances, armored engineers. The reinforced platoons of tanks and armored infantry are distributed throughout the column in positions to lead the attack, maneuver to the flanks, and secure the column against hostile counterattacks. A reinforced tank platoon normally leads a reinforced company which is an advance or flank guard for a larger unit.

(1) The company commander places himself well forward in the column. He is accompanied by the artillery forward observer, the 60-mm mortar platoon leader, and the commanders of any attached units that are not a part of the reinforced platoons. By following the leading reinforced platoon, the company commander is in a position to keep abreast of the situation, to make prompt decisions, and to issue orders that quickly implement them.

(2) The 60-mm mortar platoon normally stays under company control, but may be attached to a reinforced platoon on a separate mission out of supporting distance. It is placed in the column so that it can give immediate fire support to the leading reinforced platoon. Usually it follows the company commander and his group.

(3) Armored engineer units supporting the company normally are placed immediately behind the company commander and his

group, or behind the 60-mm mortar platoon, depending on the enemy's use of obstacles and the ruggedness of the terrain. If the terrain is especially difficult, or if obstacles and mine fields are numerous, a squad of armored engineers and an armored engineer vehicle may be attached to the leading reinforced platoon.

(4) The company maintenance section marches behind the reinforced company. If more than one company headquarters is included in the reinforced company, the maintenance section of each company marches behind the last unit containing elements of its company (fig. 34).

c. Against a surprised enemy or an enemy unprepared to resist, tanks lead in the engagement, using their speed, fire power, and shock action to confuse, overrun, and destroy the enemy. The armored infantry elements of the team support the tanks in the attack. The team moves in fast and strikes hard since the first few minutes are usually decisive in this type of action.

d. When an advancing enemy column is observed that apparently is not aware of the presence of the reinforced company, the company commander may deploy an ambush. A successful ambush usually inflicts severe losses on the victim with relatively few losses to the attacker. Ambush tactics require extensive training in rapid movement to ambush positions, fire control, and tactical control for the assault on the disrupted enemy formation.

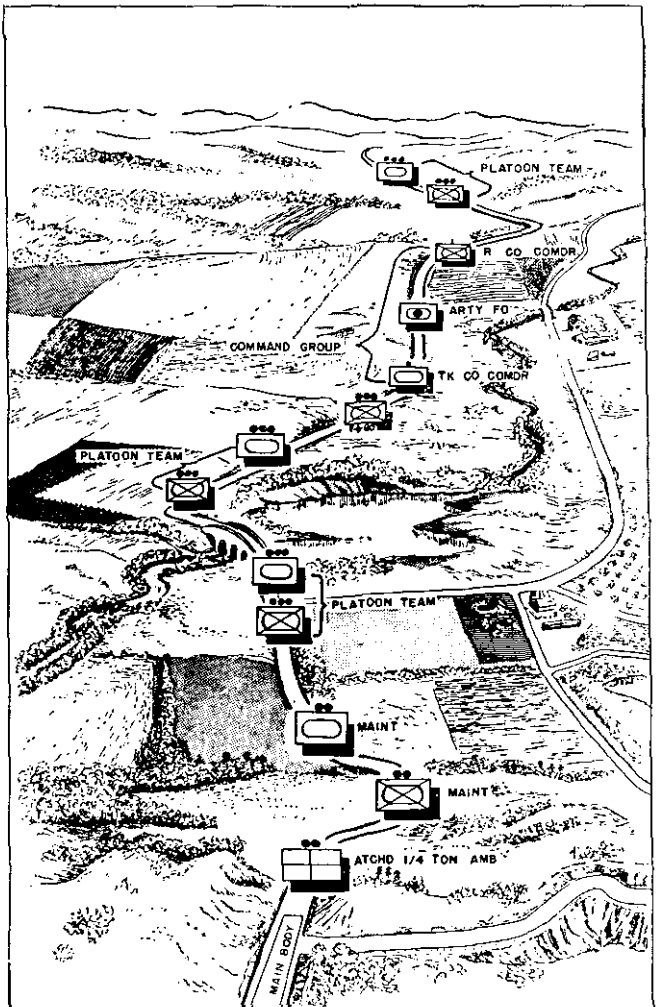


Figure 34. Reinforced company as advance guard for reinforced armored infantry battalion on exploitation.

e. If the enemy attacks suddenly with greatly superior forces, each tank and rifle platoon moves immediately to positions from which it can counter the attack. Platoon leaders engage the enemy on sight, and report their respective situations to the company commander by radio. The company commander in turn coordinates the action of his platoons, and reports the situation to the higher commander, indicating any need for support. Depending upon the mission, the terrain, and the enemy's disposition, the company commander may counterattack, set up an ambush, establish a defensive position, or fight a delaying action.

f. When the team commander discovers that the enemy occupies a strong position and is prepared to resist, the tank-armored infantry team's attack is deliberately planned and executed. This attack is planned and launched before the enemy reacts to the first contact by reinforcing his position at the threatened point. When he finds that the enemy is prepared to resist, the team commander starts a reconnaissance to discover the flanks and general nature of the hostile defensive position. Based upon the results of this reconnaissance, the team may either make a coordinated attack or take part in a coordinated attack by the entire reinforced battalion of which the team is a part. This decision is made by the battalion commander (fig. 35).

223. CONDUCT OF THE ATTACK

a. Movement to the Line of Departure. The movement from the attack position to the line of departure is in a deployed formation that permits

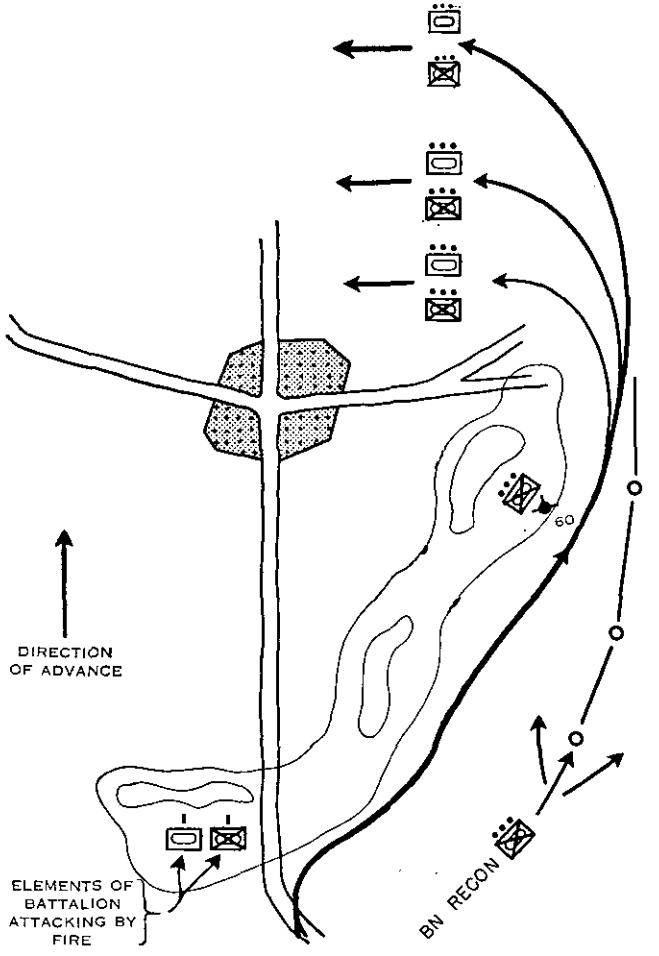


Figure 35. Tank-armored infantry team in the attack from march column.

maximum use of cover and concealment. This formation places the maneuvering (assault) elements on the line of departure in the relative position from which they will start the attack.

b. Conduct of the Maneuver Force. The maneuvering force crosses the line of departure at the time set for the attack. It uses the cover and concealment provided by the terrain and the protection given it by the supporting fires. The attack is pressed with the greatest possible speed and shock action. For conduct of the maneuvering force, mounted and dismounted, see paragraphs 307 and 335.

c. Location of the Company Commander. The company commander posts himself where he can best control the action of his company. When the armored infantry company attacks dismounted, the company commander establishes an observation post with the best view of the area where the action is to take place. He controls the attack from his observation post by using the company communication system, primarily radio. When the armored infantry accompanies tank units on the battlefield in personnel carriers, the company commander places his vehicle in the formation where he can best control his team. During exploitation, his location is near the head of the column or immediately behind the assault platoons when the team deploys for the assault. When an armored infantry rifle company is attached to a tank company, he places himself near the tank company commander.

d. Supporting Fires. Throughout the attack the company commander coordinates the movements of

his assault elements and the fires of supporting weapons. He arranges for heavy, well coordinated, fire support to obtain the maximum shock effect on the enemy. Under its protection, he pushes the attack rapidly to save time and casualties.

e. Employment of the Mortar Platoon. The mortar platoon pushes forward aggressively to maintain effective fire support. The carriers of the mortar platoon may be used to cover an exposed flank with vehicular weapons or to support the assault platoons by fire. The platoon normally displaces in its carriers.

f. Use of the Support. (For missions of the support, see paragraph 159.)

(1) If a supporting element is used in the attack it may be directed to follow the assault echelon by bounds from one covered position to another, always within supporting distance but not merged into the assault echelon. The support may be left in a designated location to await the company commander's orders for its forward movement. The support displaces in carriers unless ground or battle conditions prevent. Except for security elements and those supporting the assault by fire, personnel remain mounted in the support position. The support is committed to the attack as a complete unit. Except to repel an enemy counterattack, the company support is ordinarily not used until all elements of the assault platoons have been committed. However, when use of the company support

is necessary to renew the impetus of a stalled attack, it is committed without hesitation. In any case, it is used against weakness rather than against enemy strength, preferably for an envelopment. If possible, the support avoids attacking through an assault platoon that has become disorganized or that has suffered heavy casualties, and attacks from a new direction.

(2) When the reinforced company is attacking mounted, the support normally consists of the rearmost platoon or reinforced platoon in the formation or the element whose position makes it likely to become engaged last. When attacking dismounted, with or without tank support, a support normally is designated because the situation ordinarily will develop more slowly than in mounted attacks. When the company commander uses a support at the start of an attack, it is kept close enough to the assault echelon for prompt use to exploit a success or to repel a *counterattack*.

g. Security. The company commander adjusts his flank security measures throughout the attack to meet changes in the situation. He modifies the combat formation to fit changing conditions, uses flank security detachments when necessary, and shifts the support in the direction of danger.

h. Assistance to Adjacent Units. The company assists adjacent units when directed by the battalion commander, or when the company commander estimates that such assistance will further the battalion

mission. Assisting a stalled flank unit to advance is generally a good way to protect the company's flank. An attack using fire and maneuver is usually more effective than assistance by fire alone. Such maneuver is strongly supported by the fire of all available weapons, including those of the unit being assisted. Maneuver is not used if it will deprive the company, for an extended period, of elements needed for its own progress.

224. ASSAULT

If the armored infantry cannot move onto the objective without dismounting from their carriers, dismounted assault is made with the tanks and armored infantry on line or with the tanks followed immediately by the armored infantry. Whichever method is used, the tanks eliminate enemy groups and destroy defensive works, weapons, and equipment by direct fire. The fires of the tank guns, the carrier weapons and weapons of the assault infantry elements replace the supporting fires. The armored infantry closes with and destroys the enemy in close combat and protects the tanks from individual antitank weapons (fig. 36).

225. REORGANIZATION

a. Immediately upon taking an objective, the company disposes itself to repel a counterattack according to the plans announced in the company attack order. The company commander makes prompt adjustments to fit the circumstances. He orders a rapid move of the mortar platoon and any attached

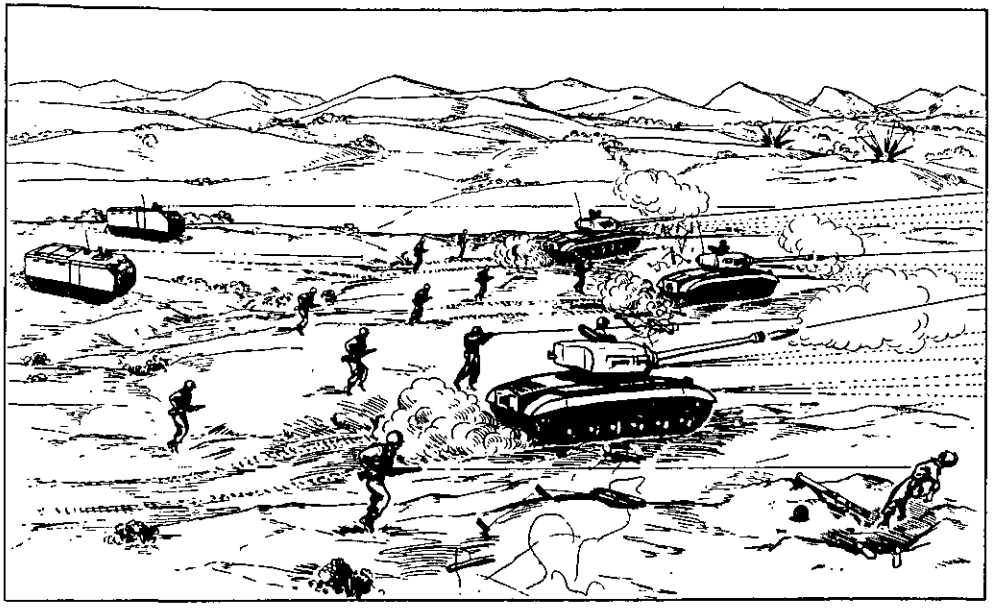


Figure 36. Tank-armored infantry team in the assault.

weapons, and places them to cover possible enemy avenues of approach to the front and flanks of the captured objective. He uses supporting fires to reinforce his position further against hostile counterattacks.

b. How the carriers are disposed depends upon the length of time the objective is to be occupied. If the company is to defend for some time, the carriers of the assault platoons are placed in covered and defiladed positions immediately behind the objective. If the attack is to continue, carriers remain under squad control. Tank and carriers are resupplied without delay. The company commander requests the battalion S-4 for the necessary supplies from the combat trains.

c. After the elements of a company have been placed to repel a counterattack, reconnaissance is begun for a continuation of the attack. At the same time, the company commander has each platoon leader reorganize his platoon. Casualties among key men are replaced, and the unit situation, strength, and vehicle and ammunition status are reported through channels. Casualties are evacuated. Identification of enemy units is reported and prisoners are sent to collecting points. After reorganization the company is again an effective team with control reestablished, enough ammunition and fuel on hand, and plans completed to continue the attack.

226. ACTION WHEN ADVANCE IS HALTED

During temporary halts the company commander provides security for the company, reorganizes the teams, if necessary resupplies, and makes prepara-

tions for continuing the attack. When a company is halted by enemy resistance, it may be ordered to continue the attack by fire, while additional supporting fires are secured or while an adjacent or reserve unit flanks the enemy position. The company may be ordered to organize the ground already taken.

Section IV. RESERVE RIFLE COMPANY IN ATTACK

227. INITIAL POSITION

a. A battalion attack order may designate a reinforced company or a rifle company or companies as reserve. The order prescribes the initial location of the reserve, instructions for subsequent movement, flank protection, preparation of plans to meet various contingencies, and contact with adjacent units.

b. Upon receiving a battalion order, the reserve company commander considers possible covered routes from the assembly area to the initial reserve position. Selection of the route is made after a reconnaissance, preferably by the company commander. He avoids disclosing the location or movement of the reserve. The company commander, if not present himself, has his representative stay with the battalion commander. Liaison is established with the assault rifle companies, battalion mortar platoon, and other supporting arms whose help may be required.

c. Having made his reconnaissance of the route and having located the initial reserve position, the company commander issues his order. It includes information about the enemy and about supporting troops, the battalion plan of attack, and instructions

for the movement to the initial reserve position and its occupation and security.

228. MOVEMENT TO SUCCESSIVE RESERVE POSITIONS

At first the reserve company is usually behind the company making the main attack in the battalion zone. Later, it advances behind the company making the fastest progress to protect that company against counterattack and infiltration from its rear, to support the main effort, and to exploit success. The company commander reconnoiters and recommends successive positions and routes thereto. Except in emergencies the company moves by bounds on the battalion commander's order.

229. PLANNING POSSIBLE MISSIONS

a. The reserve company may be ordered to—

(1) Exploit any local success.
(2) Envelop points of resistance located by the assault echelon (often by movement through the zone of adjacent battalions).
(3) Protect the flanks.
(4) Repel counterattacks (especially against the flanks).
(5) Mop-up a position overrun or by-passed by the assault echelon.
(6) Take over the mission of all, or a part, of the assault echelon.
(7) Keep contact with adjacent units.

b. As the attack develops, the battalion commander indicates the reserve's probable use and orders the

company commander to reconnoiter and make plans. The company commander plans the probable employment of his company, reports his plans to the battalion commander for approval, and informs his unit leaders of the details. He estimates the time necessary to put each plan into effect.

Section V. EXPLOITATION AND PURSUIT

230. GENERAL

a. After breaking the enemy's resistance and rupturing his defense, the subsequent phases of action are exploitation and pursuit. The ideal force to exploit this success is armor—tanks reinforced with armored infantry. The tank-armored infantry teams move rapidly to overcome scattered resistance with bold and aggressive action. Enemy resistance in this phase generally consists of delaying action by enemy groups with small numbers of tanks, obstacles, individual antitank weapons, mine fields, combinations of these means, and counterattacks by mobile forces. These mobile forces usually have a high percentage of armored troops and may attack from any direction.

b. Supporting weapons and service elements move closely behind the combat elements for protection and to help the tank-armored infantry team continue its advance. The attack may be continued at night. The team follows the assigned axis of advance, with shortened intervals and distances to aid in control. An all around defense is established when the team halts. For discussion of pursuit see paragraph 343.

231. ROLE OF ARMORED INFANTRY

In exploitation, tanks destroy much of the enemy resistance. The armored infantry elements are used to—

a. Clear towns, wooded areas, and difficult terrain.
b. Gap mine fields together with armored engineers.
c. Establish bridgeheads.
d. Provide security for tanks at night.
e. Protect tanks from individual antitank measures.
f. Handle prisoners of war.

232. COMPANY AS PART OF EXPLOITING FORCE

The reinforced armored infantry company normally is used as part of a larger exploiting force. However, it is capable of limited independent action, such as reducing isolated strong points, seizing and holding critical defiles or key bridges, or acting as a flank guard. The reinforced armored infantry company may be used as the advance guard for a reinforced battalion on exploitation. Attacks by the advance guard normally are launched from march column.

233. TRANSPORATION OF ARMORED INFANTRY

a. The armored infantry rifle company in exploitation normally rides in its carriers. When there is a shortage of fuel or a need to shorten the road space, an armored infantry rifle company may ride

on the tanks of the tank-armored infantry teams. An armored infantry rifle company, less the mortar platoon, the administrative, mess, and supply sections, and the men who ride in wheeled vehicles, can be mounted on the tanks of a medium tank company. The entire company, less the administrative, mess, supply, and maintenance sections, can be carried by a heavy tank company. The tactical unity of the armored infantry platoons is kept by having an infantry platoon ride the tanks of a tank platoon. The rifle platoon leaders ride the tanks of the tank platoon leaders until close contact is made. The tank radio net is used for control while mounted.

b. Compared with movement in carriers, there are major disadvantages to riding tanks. These disadvantages include—

(1) Lack of flexibility in forming the column. Transportation requirements rather than tactical considerations govern the placing of the armored infantry.

(2) Lack of flexibility in organizing reinforced companies, since transportation and not tactical requirements govern.

(3) The infantry's vulnerability to small arms fire and fragments means that fewer isolated enemy groups can be by-passed.

CHAPTER 9

ARMORED INFANTRY RIFLE COMPANY IN DEFENSE

Section I. GENERAL

234. TYPES OF DEFENSE

Defensive actions normally fought by armored infantry units are either mobile or sustained.

a. Mobile defense is the defense of an area or position combining maneuver with organization of fire and utilization of terrain to seize the initiative from the enemy. The mobile defense is characterized by lightly held outpost system and strong mobile reserves. Mobile defense is particularly suitable for the armored division when it is assigned too wide a frontage for its organic armored infantry to organize the ground properly for a sustained defense.

b. Sustained defense is the defense of an area or position aiming to stop the enemy at the defense line or main line of resistance. It is normally employed by infantry divisions. It is employed by the armored division and its elements when the width of the assigned sector is not too great for the armored infantry strength of the division. In the sustained defense, a reserve is withheld for use against any hostile penetration of the battle position.

235. PRINCIPLES OF DEFENSE

In organizing and conducting defensive operations, an armored infantry company commander applies tactical principles for the best use of troop locations, terrain, and fire power. In a sustained defense, the principles of defense are followed regardless of the situation and terrain. During mobile defense, however, all the principles may not apply. These principles of defense include—

a. Organization of Key Terrain. An area can best be defended by organizing key points and covering by fire the intervals between and approaches to these key points. Based on the commander's evaluation, key terrain features that provide the best defensive strength for the position are selected and organized.

b. Organization in Depth. Any defensive position can be penetrated if the attacker is willing to pay the price in men and matériel. Therefore, organization in depth is essential. A commander disposes his troops and weapons in depth so that if the attacker is successful in penetrating the main line of resistance, a unit to the rear can engage him and limit the penetration.

c. Mutual Support. All units, or organized localities of a defensive position, are mutually supporting across the front and from front to rear. Each forward unit is so disposed that it can support by fire adjacent units on either flank. Units disposed in depth support the units to their front so that if the attacker succeeds in penetrating the forward defense, he immediately comes under the fire of the

next rearward unit and is prevented from reorganizing.

d. All-Around Defense. A unit organizes its position to meet attacks from any direction. An independent unit operating in close terrain has greater need for all-around defense than a unit that is part of a larger force and operating in open terrain. A unit may defend in all directions from its primary positions, or it may prepare supplementary positions and shift troops to meet threats from the flanks or rear.

e. Coordinated Fire Plan. Each unit plans and coordinates the fires of its weapons to get maximum effectiveness, complete coverage of the battle position and its approaches, and continuous fire on the attacker. The unit's plan includes the opening of fires, signals for final protective fire, rates of fire, mutual support of adjacent units, and firing to be done when visibility is poor. Fire plans of smaller units are supervised and coordinated by the larger units.

f. Coordinated Antitank Plan. Plans for the use of antitank weapons, mine fields, and other obstacles are coordinated to protect the battle positions from a tank attack or a combined tank-infantry attack. The coordinated antitank plan is designed to disorganize and delay hostile tanks well forward of the position, to stop and repel tanks forward of the position, and to destroy or eject the tanks if a penetration is made. Unit plans provide for the use of all antitank means under the commander's direct control. The extent to which mine fields or other artificial obstacles may be used depends on the type of defense being used.

g. Flexibility. Flexibility in the defense is gained by preparing supplementary positions, holding troops in support or reserve, and being able to mass supporting fires in any area. It is normal for a rifle company and larger unit to use one-third or more of its force as a support or reserve. This adds flexibility to the defense, since reserves can be used to limit penetrations, to protect the flanks and rear, and to counterattack. Flexibility is also gained by using supporting weapons under centralized control. Centralized control aids in the massing of supporting fires on a given target.

236. TERRAIN FACTORS

In making his terrain study the commander evaluates the tactical possibilities of the area. He determines how, in organizing his defensive position, he can best use, and deny to the enemy, these terrain factors:

a. Critical Terrain Features. Terrain features are considered that appear to be critical for either the attacker or the defender, such as a dominant hill or ridge, shoulders of a valley, a road or trail, a built-up area, or a communication center.

b. Observation and Fields of Fire. Observation provides information of enemy and friendly troops. Both long-range and close-in observation are necessary to bring fire on the enemy and to determine his capabilities. Close-in observation is gained by organizing on the military crest; this also protects long-range observation posts located near the topographical crest. Hostile observation into the battle position is denied the enemy by the use of security

forces and fire. Fields of fire for direct fire weapons can be improved by cutting weeds, grass, and crops; clearing brush and trees; demolishing buildings; and cutting lanes through woods. The clearing should not warn the enemy of the location of the battle position or destroy its concealment. The organizing of terrain which gives good fields of fire, such as open, flat terrain, requires fewer men and weapons than close terrain with poor fields of fire.

c. Obstacles. In organizing a defensive position, natural obstacles that will hinder the advance of the enemy are evaluated and used. The correct evaluation of natural obstacles increases the effectiveness of artificial obstacles. Because obstacles covered by fire are of little value, the position is organized so that they can be covered by observed fire.

d. Concealment and Cover. Concealment is protection from enemy observation and cover is protection from enemy fire. Irregular wooded terrain furnishes ideal protection from enemy air and ground observation, but limits friendly observation and fields of fire. If the terrain is flat and open with limited cover and concealment, more time is necessary for troops to dig in and camouflage their positions.

e. Avenues of Approach. Avenues of approach within the battle position are used for supply, evacuation, movement of troops into forward positions, and counterattack. They must be valuated as to their condition, and the amount of cover and concealment provided. Avenues of approach available to the enemy are considered in terms of roads, ridges, terrain corridors, cross compartments, and areas where the ground favors cross-country movement

into the defensive position from the front or flanks. After evaluating the terrain, the commander plans the organization of his position (fig. 37).

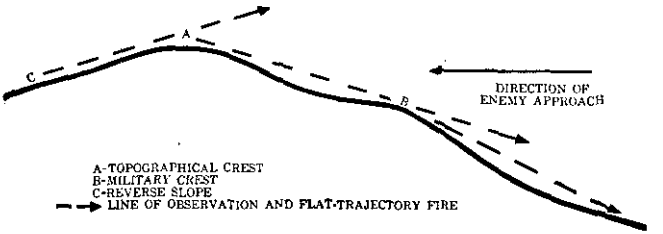


Figure 37. Explanation of terrain terms.

Section II. FRONT-LINE RIFLE COMPANY IN SUSTAINED DEFENSE

237. GENERAL

a. Mission. The mission of a front-line rifle company in defense is, with the support of other arms, to stop the enemy by fire in front of the main line of resistance, to repel his assault by close combat if he reaches it, and to eject him by counterattack.

b. Dispositions. A rifle company assigned to the defense of an area on the main line of resistance organizes its area according to the basic principles of defense. It covers its front with fire; coordinates its fires with, and mutually supports, the units on its flanks; gives close rifle protection for the supporting weapons emplaced within its area; and resists in all directions. To place accurate fire in front of the battle position requires good observation. To obtain observation, a forward slope is often occupied. A reverse slope position may be

preferable if observation can be obtained from the flanks or rear, and if the terrain on the reverse slope permits the placing of a heavy volume of accurate fire on the crest and on approaches around the flanks. The terrain may make it desirable to occupy a combination of forward and reverse slopes.

238. COMPANY DEFENSE ORDER

The company commander bases his defense order on the battalion order, his own reconnaissance and estimate of the situation, and recommendations from his platoon leaders (par. 40). For the form of the company defense order, see appendix II. The order is issued orally in 5-paragraph sequence and includes—

a. Information of the enemy, including direction from which, and time when, enemy attack is expected; information of friendly supporting and adjacent units.

b. Company mission.

c. Missions and areas of each rifle platoon. Details of coordination include—

(1) Locations and missions of the 60-mm mortars and any additional weapons assigned to the company.

(2) Fire control to include details relative to calling for final protective fires.

(3) Security.

(4) Priority of construction.

(5) Location of mine fields and other obstacles.

d. Mines, barbed wire, fortification supplies, ammunition supply, and other administrative details, including—

(1) Location of the battalion aid station.
(2) Disposition of company vehicles.
(3) Alterations or additions to standing operating procedure such as antiaircraft security, type of emplacements, and sanitation measures.

e. Location of command and observation posts; communication instructions.

239. FRONTAGE AND DEPTH

a. The battalion commander assigns *frontages* to his front-line companies according to their natural defensive strength and the relative importance of their defense areas. An armored infantry company occupying a defense area on the main line of resistance may be given a frontage of 600 to 1500 yards. A company occupying a vital area having poor observation and poor fields of fire, as in heavily wooded or broken terrain, is given a frontage near the minimum figure. Where the terrain is more open and provides longer fields of fire and better observation, the frontage approaches the maximum figure. In unusually open and flat terrain, or where natural obstacles across the front greatly strengthen the defense, the company may be assigned a frontage greater than 1500 yards. The strength and combat effectiveness of a company are considered in assigning its frontage.

b. The *depth* of a company area from the main line of resistance to the rear generally does not exceed 700 yards. The area of responsibility forward of the main line of resistance includes local security and seldom exceeds 500 yards.

c. The battalion commander designates the area of responsibility of each front-line company by the use of *boundaries.* Boundaries indicate the forward, rear, and lateral limits of responsibility. All company defensive elements and installations are included within this area, except administrative installations like the ammunition supply point. Administrative installations may be located outside the assigned defense area if the battalion commander approves. Carriers of the front-line companies are normally placed behind the battalion reserve.

d. Points along a line of resistance where the responsibility of one unit stops and that of another begins are called *limiting points.* These points, which are designated by the higher commander, serve two main purposes for the front-line company. They indicate the general trace of the main line of resistance and designate a place on the ground where adjacent commanders coordinate their defense plans so that their defense areas are mutually supporting.

240. DISTRIBUTION OF PLATOONS, GENERAL

a. Platoons are placed within the company defense area to achieve maximum effectiveness of defense. This is generally done by using two rifle platoons abreast on the main line of resistance and one rifle platoon in support. Platoons are disposed to cover the company defense area by mutually supporting fires and by observation (fig. 38).

b. Elements of the mortar platoon are located within the company defense area where they are protected by rifle elements and where they can best

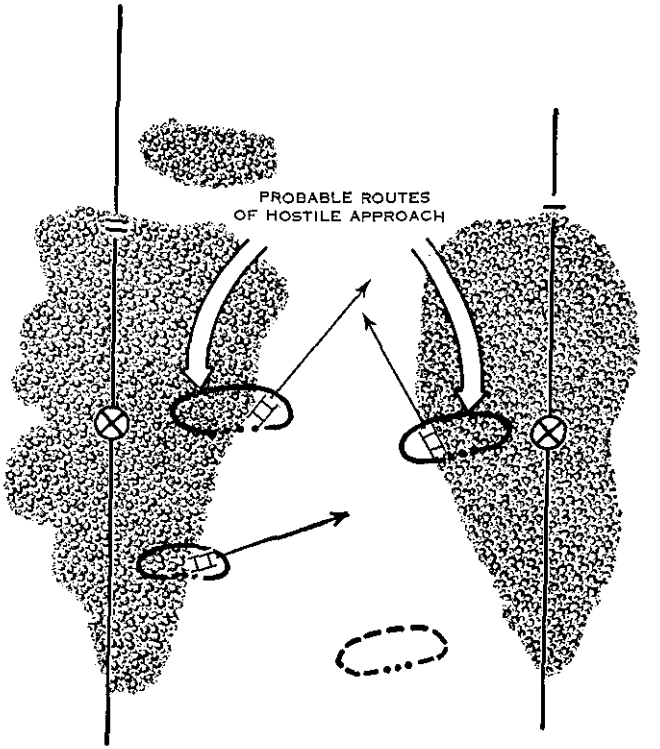


Figure 38. Distribution of company in defense (daylight).

accomplish their fire missions. Usually, they are located within the platoon defense areas.

c. The possibility of the enemy attacking through open areas is greater when visibility is reduced. Poor visibility may require adjustments within platoon defense areas, including minor shifts of weapons; change in the location of the support platoon; use of security detachments to cover intervals be-

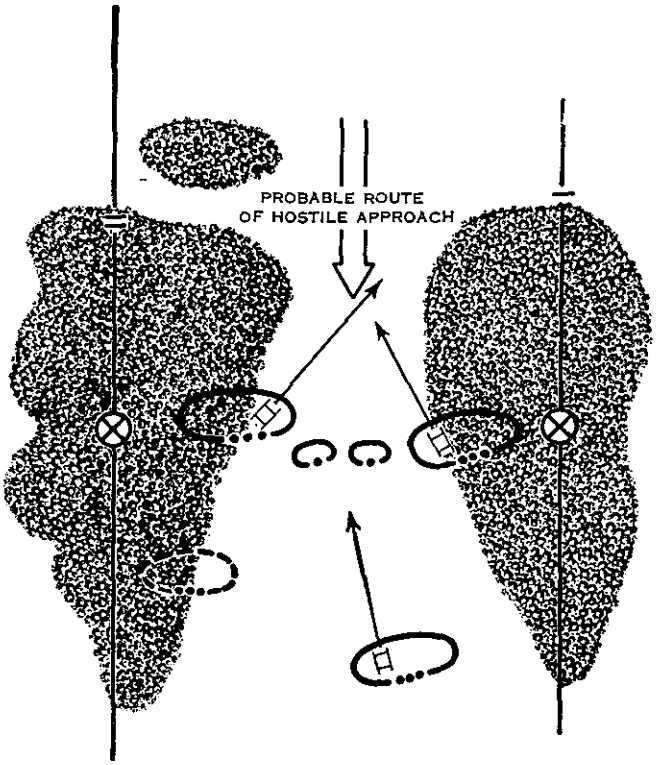


Figure 39. Distribution of company in defense (night).

tween defense areas; and strengthening the local security elements (fig. 39).

241. FRONT-LINE PLATOON

The width of a defense area assigned to a front-line platoon depends on such factors as fields of fire, obstacles, and supporting fires. A rifle platoon oc-

cupying a defensive area may be assigned a frontage of 300 to 750 yards. Because it can cover an area by fire, a platoon seldom occupies positions along all of its assigned frontage. When vehicular weapons are placed within the platoon area, the occupied frontage may be increased. The gaps between platoons vary with the terrain and the available fires, but seldom exceed 150 yards. A gap of this width is justified only if it can be covered by fires of the support platoon as well as by flanking fires from platoons adjacent to the gap. The company commander avoids dividing the responsibility for defending an avenue of enemy approach. When possible, he assigns both the approach and the terrain that blocks it to one platoon.

242. SUPPORT PLATOON

a. Missions. The primary mission of the support platoon is to support the front-line platoons by fire. The terrain seldom permits the support platoon to fire in front of the front-line rifle platoons; therefore, it fires in the gaps between front-line platoons, within forward areas in case they are overrun, and to the flanks and rear of the company defense area. The support platoon may also be used to add depth to the defense of the company area, protect the flanks and rear of the company area, and, exceptionally, eject the enemy from the battle position.

b. Location. The support platoon is located behind the front-line platoons, and within the company defense area, on the terrain which gives the best observation and fields of fire for accomplishing its

missions. The positions are organized within effective rifle range (500 yards) of the forward platoons, but are at least 150 yards behind them to avoid enemy fire directed at the forward platoons.

c. Employment.

(1) If the terrain permits, the support platoon organizes a single position to accomplish its mission (fig. 40). If the terrain does not allow the support platoon to accomplish its mission from a single position and

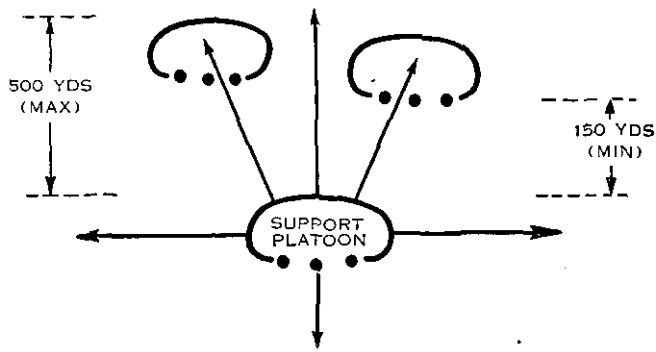


Figure 40. Support platoon occupying one position—arrows indicate direction of fire (schematic).

concealed routes for movement within the area are available, more than one position may be organized (fig. 41). The platoon then occupies the position that covers the most dangerous area. It is prepared to move to other positions on order.

(2) When the terrain makes it necessary to organize more than one position and concealed routes between these positions do not

exist, it may not be possible to move the support platoon after the fire fight has begun (fig. 42). In such situations, it may be necessary to split the support platoon and have it occupy more than one position. *Rifle squads are not divided.*

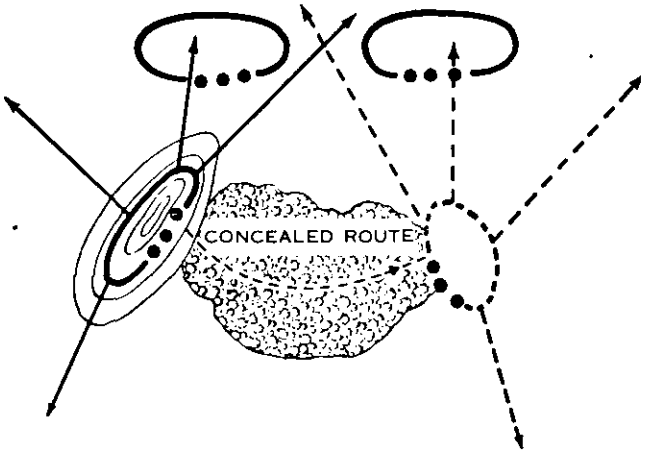


Figure 41. Support platoon occupying one of two prepared positions (schematic).

(3) Besides being used in one of the above three ways, the support platoon may be directed by the company commander to make a local counterattack. However, because of its smallness and because it usually is engaged in the same fire fight as the front-line platoons, the support platoon is rarely given this mission. Such a counterattack is a quick assault and mopping-up action to de-

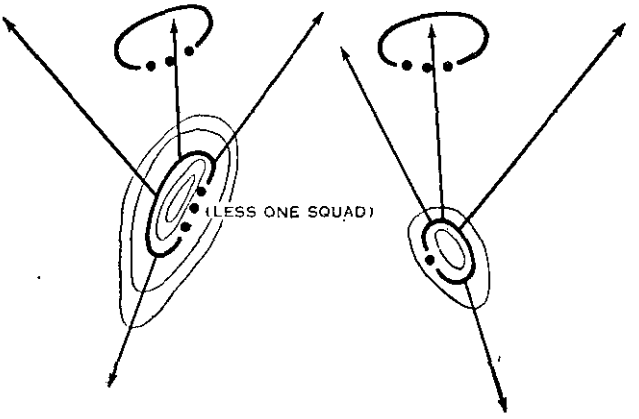


Figure 42. Support platoon occupying more than one prepared position (schematic).

stroy a small enemy group that has made a minor penetration.

243. 60-MM MORTAR PLATOON

For the use of the 60-mm mortar platoon in sustained defense, see paragraphs 179–199.

244. OBSERVATION

a. The company commander coordinates the company's observation posts to fit them into the battalion observation plan and to avoid duplication of effort. The location of several observation posts in the same area is avoided. When terrain features that offer good observation are limited, observers are spread across the front so that overlapping observation is obtained over the defense area and approaches to it. Communication facilities are co-

ordinated and used to the maximum, so that any observer can call for and control the fires of any supporting weapon.

b. The company observation post is located to give a view of as much of the company defense area and its approaches as possible. If observation is limited, a post is selected that provides observation of the most critical approach. Observation to the flanks is also important. Although the observation post is the battle station of the company commander, he goes where his presence is needed. The command post is kept informed of his location.

245. COMMAND POST

The company command post is located in the rear of the company defense area. So that it may have adequate local protection, it normally is in or near the support platoon area, and it is concealed from air observation. Covered and concealed routes to the front and to the rear make communication easier with the platoons and the battalion command post.

246. ORGANIZATION OF GROUND

a. The organization of the company defense area is limited by the time and facilities available. The battalion order normally gives the sequence in which tasks are executed. Tasks may include—

(1) Clearing fields of fire.
(2) Preparing emplacements for weapons and individual shelter.
(3) Laying antitank mines, trip flares, and antipersonnel mines when authorized.

(4) Constructing wire entanglements and other obstacles.

(5) Preparing routes for supply, communication, and evacuation.

b. In the absence of special instructions, all men first dig standing type foxholes or weapons emplacements. While these emplacements are being built, all crew-served weapons are mounted nearby in temporary firing positions. Maximum use is made of natural and artificial concealment and cover against both ground and air observation and fire. Protective wire is placed around each small unit defense area and tactical wire is strung forward of the company position. Specially trained elements from other units may lay mine fields and construct obstacles or supervise the work on them. Many of these tasks are done concurrently.

c. Organization of areas exposed to enemy fire or air bombardment may have to be done piecemeal during daylight with men well dispersed. If this is impracticable, the work on these exposed positions is postponed until darkness.

247. ANTITANK DEFENSE

a. The preparation of a coordinated antitank defense plan is mainly the responsibility of the battalion commander. This plan provides for placing antitank weapons within, and mine fields and obstacles forward of, front-line rifle company areas. The company commander familiarizes himself with this plan and uses the antitank weapons of his company for close protection of his company area. He places these weapons where they can cover avenues of enemy

tank approach, mine fields, and obstacles that are not covered by the weapons of other units, or he uses them to reinforce his more vulnerable areas.

b. Mine fields and obstacles are covered by fire to prevent the enemy from removing them before or during a tank attack. They also are covered by weapons that can destroy immobilized tanks. Mine fields are marked and a record of their locations is made and submitted to the next higher commander. Guards are placed over them, to prevent casualties to friendly troops and vehicles, until all security elements forward of the main line of resistance have withdrawn.

248. HASTY OCCUPATION OF POSITION

a. When speed is necessary, the first considerations are to get the troops on the position, provide for local security, and start the organization of the ground. The elements of the company and any attached weapons are located to obtain all-around coordination. Positions and fires are readjusted later if necessary.

b. A front line rifle company often is forced to organize its position while in close contact with a strong enemy. Such a defense may be characterized by all or a part of the following: limited movement of men, troops subjected to observed enemy fire, limited attacks to seize terrain necessary to the organization of the position, limited withdrawals (after approval of the battalion commander) to strengthen the position, and hostile attack during any or all stages of the organization. When organizing a position under these conditions, the principles of defense

still apply though the extent varies in each situation. Troop-leading procedure is followed as far as the situation permits. The company commander relies heavily on the initiative of his platoon leaders, since immediate decisions by them are necessary before the company commander can make his detailed coordination. To cover the organization of the position, maximum use is made of available supporting fires.

249. NIGHT DISPOSITIONS

a. It is usually necessary to make adjustments at night because of reduced visibility. These adjustments include—

(1) Laying light machine guns on final protective lines and 60-mm mortars on barrages.
(2) Shifting troops and weapons to block areas, usually open and exposed, that favor night attack but that are covered solely by fire during periods of good visibility.
(3) Changing local security to night dispositions.
(4) Preparing flares to light the foreground.

b. Any company adjustments in fires or troop disposition are coordinated with the battalion commander. Infrared equipment may be used to increase visibility.

250. CONDUCT OF DEFENSE

a. As the enemy approaches the battle position, he is engaged first by fire from outposts established well forward of the battle position and by long-

range weapons located behind the front-line company areas. Long-range fires are controlled by air observers, patrols, and by ground observers on the outpost positions.

b. When the enemy comes within effective small-arms range of the main line of resistance (500 yards), individuals and crew served weapons in front-line platoon areas open fire. As the enemy advance continues, these fires are increased in intensity. The 60-mm mortars and long-range weapons fire on targets within range. Tanks located to fire in front of the main line of resistance open fire at enemy tanks at long-range, unless specifically directed to withhold fire until the enemy is closer. Observers in each forward defense area keep the front under continuous observation to adjust fires of long-range weapons. As the enemy draws closer to the battle position and delivers heavy fires in preparation for his assault, men in front-line defense areas take cover in their foxholes or emplacements.

c. When the massed fires of the enemy are lifted, all weapons in the forward platoon defense areas open fire to inflict maximum casualties and to stop the hostile attack before it reaches front-line positions. Supporting fires are requested directly from the nearest artillery or mortar forward observer. The company commander also requests supporting fires from the battalion commander.

d. If enemy attackers reach the area to be covered by final protective fires, machine guns shift their fires to final protective lines, mortars and artillery fire their barrages, and other weapons increase their rates of fire against the most threatening tar-

gets. Authority to call for final protective fires is given in the battalion fire plan. This authority is normally delegated to front-line platoon leaders so that fires are delivered when needed. When fires are called for, they are delivered without delay. Higher unit commanders immediately verify the need for these fires and call for reinforcing fires if necessary. If the enemy assaults, he is met by fire, grenades, and close combat. Men in the threatened area do not withdraw except upon the verified order of their commander.

e. When the attacking force includes tanks as well as infantry elements, the primary targets for all company weapons, except antitank weapons, are the hostile foot troops or other exposed personnel. Fires are directed to separate foot elements from the tanks. Exceptionally, when hostile infantry or exposed personnel do not provide a target, small-arms fire is directed against the open hatches and vision devices of enemy tanks. Antitank rifle grenades and rockets are used against hostile tanks. Fire is continued until the defenders are forced to take cover to protect themselves and their weapons from the crushing action of the tanks. They return to their firing positions as soon as the tanks have passed and fire on the rear of the tanks, on approaching foot troops, and on men riding, or closely following, other attacking tanks.

f. If the enemy succeeds in overrunning defense areas, the advance is resisted by fires from adjacent and support platoon defense areas and from supporting weapons. If a minor penetration has been made by a small enemy group and the main line of

resistance has not been jeopardized, the company commander may order the support platoon to counterattack. Such a counterattack is a quick assault and mopping-up action. A new support is reconstituted at the earliest opportunity.

g. If the company is surrounded, the company commander shifts troops and weapons in his area as necessary for a continued all-around defense.

h. A night defense resembles a day defense except that it is characterized by more close-in fighting. It can be expected that some of the enemy will infiltrate the position. At the same time, light machine guns, 60-mm mortars, and other supporting weapons break up elements of the enemy which are still outside the position. Although machine guns are laid in readiness on final protective lines and the mortars on their barrage areas, crews of these weapons should shift to more remunerative or more threatening targets when visibility permits (and when not ordered to fire final protective fires). Flares are used forward of the position to help locate these targets.

251. RELIEF

a. If the defense is prolonged or if units on the battle position have suffered heavy casualties, periodic relief is made whenever possible. The front-line armored infantry company may be relieved by the battalion reserve company, by a company from another battalion, or by a unit of different strength and organization. For secrecy and security, front-line units normally are relieved at night.

b. Relief plans are made in detail and are carried out as fast as possible. Incoming leaders must learn the organization of the position and the plan of defense. They normally do this by sending representatives to inspect the position during daylight. Some of these representatives remain on the position to learn of any changes that occur afterward. Unit leaders of the company being relieved are informed of the time, order of relief, and the routes and check points by which they will leave the position.

c. As it is relieved, each unit including squads and weapons crews goes to the rear. There the platoons normally are assembled and led by guides over previously reconnoitered routes to the company assembly area. During this movement, weapons and troops from other units normally are attached to the platoon in whose area they have been employed. Commanders arrange for the mutual exchange of weapons which cannot be moved easily or replaced during darkness. Communication lines and extra supplies and equipment not essential to the unit being relieved are left on the position.

d. Periodic reports are made to the next higher commander. The incoming unit commander assumes responsibility for the defense of the area when the major portion of his command is in position and he has established communication and control, or when ordered to do so by the over-all commander.

252. REVERSE SLOPE, GENERAL

The occupation of a reverse slope position may be dictated if control of the forward slope has been

lost or has not been gained, or if the forward slope is extremely vulnerable to enemy fire. The advantage of a reverse slope defense is that the forward elements of the battle position are protected from enemy ground observation and direct-fire weapons. This permits greater freedom of movement, more detailed improvement of the position, ease of supply, and rest for the troops (fig. 43).

253. ORGANIZATION OF REVERSE SLOPE POSITION

The reverse slope position is organized generally according to the principles of defense. Modifications of these principles and additional considerations are—

a. Observation posts are prepared on or just forward of the topographical crest and are occupied by unit commanders and forward observers. Small groups of riflemen and weapons crews provide protection for these observers. Normally, these groups come from the support platoon. At night they are strengthened to prevent hostile infiltration and surprise.

b. When possible the forward slope and flanks are covered by direct flanking fire of weapons defiladed from the front.

c. A carefully laid field of antitank mines, trip flares, and antipersonnel mines may be used on the forward and reverse slope to slow the enemy attack and thereby allow the defender more time to meet an assault.

d. Troops and weapons on the reverse slope are located to permit maximum fire on the crest, in the

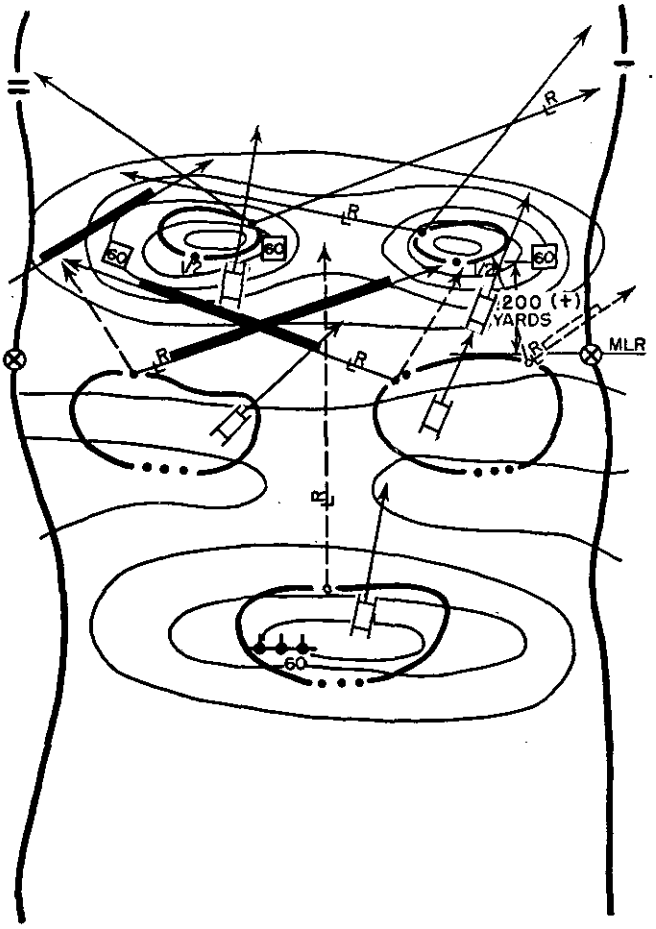


Figure 43. The reinforced rifle company in a reverse-slope defense (schematic).

approaches around the crest, and on the forward slopes of adjacent terrain features.

e. If within effective range, the military crest of the next high ground behind is a desirable location for the support platoon and attached tanks.

f. Final protective fires are planned to destroy the enemy as he attempts to cross the crest. The main line of resistance is usually located at least 200 yards from the crest of the hill. This insures adequate fields of fire and permits delivery of final protective fires without endangering friendly troops.

254. CONDUCT OF REVERSE SLOPE DEFENSE

a. The conduct of a reverse slope defense is generally according to the principles described in paragraph 168. The security detachments on the forward slope give warning and delay and disorganize the enemy by long-range fires. During periods of poor visibility, greater use is made of warning and illuminating devices like flares, searchlights, and antipersonnel mines, to provide a better coverage of the front.

b. If the enemy drives in the security detachments and continues his advance, planned concentrations are delivered on the forward slope by the defending high-angle weapons to disrupt any attempts to mass for an assault. Direct fire weapons within the battle position withhold their fires until suitable targets appear. If the enemy crosses the crest in mass, final protective fires are delivered.

c. If a limited penetration of the main line of resistance is made and a counterattack is ordered, it is carried out the same as in a normal defense. Since

the enemy must be denied observation from the high ground overlooking the battle position, however, the counterattacking force seeks to reestablish the security detachments on the forward slope.

Section III. RESERVE COMPANY IN SUSTAINED DEFENSE

255. GENERAL

a. An armored infantry company may be part of the battalion reserve. The battalion reserve includes tank and armored infantry elements that function as a tank-armored infantry team. The ratio of tanks in the battalion reserve is generally large; however, the reserve is committed as a tank-armored infantry team. It performs one or both of the following missions:

(1) As a mobile striking force, it counterattacks to destroy an enemy penetration of the battle position.

(2) It occupies prepared positions to contain or block an enemy penetration while other forces execute a counterattack. The decision to counterattack, occupy positions, or to do both, rests with the battalion commander.

b. The reserve company commander keeps himself abreast of the situation and continuously makes plans for possible company missions. He keeps his platoon leaders informed of the situation and changes in plans. He keeps himself advised of the situation by—

(1) Personal reconnaissance and reconnaissance by lower unit leaders.
(2) Liaison with battalion headquarters.
(3) Frequent visits to the battalion command post and observation post.
(4) Establishment of a company observation post, usually near the battalion observation post.

256. COUNTERATTACK

The counterattack is a decisive phase of defensive combat. The basic counterattacking force of the battalion is the reserve tank-armored infantry team. To give maximum strength to the counterattack, the battalion commander attaches to or places in support of the reserve company all available troops and weapons. These attachments and supporting missions become effective upon the battalion commander's decision to counterattack. The battalion order gives the likely penetrations against which counterattack plans are to be prepared. The reserve company commanders prepare counterattack plans while organizing the defensive position. He submits these plans to the battalion commander for approval.

257. OTHER MISSIONS

Besides counterattacking, the reserve may be used to—

a. Increase the depth of the defense. The reserve prepares primary positions on key terrain, normally with three platoon areas on line across the battalion area behind the front-line companies. These posi-

tions should be organized not more than 500 yards and not less than 150 yards from the support platoons of the front-line companies. Then they will be within rifle supporting distance and outside the zone of dispersion of enemy fire directed at the front-line companies. The platoon positions are organized similar to front-line platoons. Their fires and positions are closely coordinated with those of supporting weapons located in the rear of the battalion area.

b. Protect flanks and rear. Besides adding depth to the defense, the reserve protects the flanks and the rear of the battalion. Since this protection seldom can be provided from primary positions alone, it usually is necessary for the reserve to prepare supplementary platoon positions. If the battalion is threatened from any direction other than the front, the battalion commander may direct the reserve to occupy whatever combination of platoon positions best protects the threatened area. When the battalion has an unprotected flank, the reserve may be disposed to protect it.

258. ORGANIZATION OF GROUND

Normally, the reserve company first prepares its primary positions. It then prepares its supplementary positions according to the priority given by the battalion commander and, when necessary, improves routes to its lines of departure for counterattack. The organization of each position includes clearing fields of fire and making and concealing individual shelters, weapon emplacements, and obstacles.

Section IV. MOBILE DEFENSE

259. GENERAL

The mobile defense usually is composed only of an outpost system and reserves. The outpost system is lightly held while the reserve serves as a counterattacking force to detroy the enemy at the most favorable tactical locality. Normally, the armored infantry rifle company, reinforced by tanks, is employed within the reinforced battalion in the mobile defense as follows:

a. To outpost part of the battalion sector. In this case, the reinforced battalion commander assigns a definite part of the battalion sector to the reinforced company. The company commander organizes an outpost system in this area by organizing, occupying, and defending strong points (key points) designated by the battalion commander (par. 416).

b. To constitute part of the mobile reserve. In this case, the reinforced company normally operates intact as part of a reinforced battalion in combat command reserve as the counterattack force. However, if the reinforced battalion, operating independently, assumes the mobile defense, a reinforced armored infantry rifle company may be assigned as all or part of the mobile reserve for the reinforced battalion.

Section V. REINFORCED RIFLE COMPANY AS PART OF OUTPOST SYSTEM IN MOBILE DEFENSE

260. SELECTION OF STRONG-POINT LOCATIONS

The commander of the reinforced battalion normally selects critical terrain features that dominate

the most likely avenues of enemy approach into the defended area. If strong-point locations are not selected by the battalion commander, the company commander immediately makes as detailed a reconnaissance as time and the situation permit to determine key terrain features and enemy avenues of approach in the company sector. The company commander and platoon leaders must be thoroughly familiar with the terrain in the company sector. Terrain is evaluated as explained in paragraph 236.

261. TASK ORGANIZATION

After completing his reconnaissance (par. 414) and formulating his plan of defense, the company commander organizes his company to accomplish its assigned mission. The reinforced company may occupy one key terrain feature. On the other hand it may be organized into reinforced rifle or tank platoons, reinforced tank sections, or reinforced rifle squads. If the company does not occupy a company strong point, platoons, sections, or squads are designated to defend key terrain features, avenues of approach for enemy foot troops and armor, road blocks, and the observation (listening) posts. In planning the composition of each small team, the company commander considers—

a. Mission assigned the small team. Each strong point is manned with the tanks and armored infantry needed for the task. Key terrain is manned by enough men and tanks to hold the feature. Whenever possible, it is desirable that at least a reinforced platoon be assigned to organize each key terrain feature. The more importance attached to

the terrain feature, the stronger the defending detachment.

b. Composition of the reinforced company. The ratio of tanks to armored infantry in a reinforced company determines the size of the tank unit that is included in each team or detachment. The tanks must not be split below a platoon if possible.

c. Nature of the terrain. Smaller detachments are needed for strong points in rough inaccessible terrain than in open, gently rolling terrain. Some terrain may be so rugged that patrols alone can secure it.

d. Presence of key installations and areas. Key installations, road centers, key towns, and areas needed for the maneuver of the battalion reserve are strongly held.

e. Width of the company sector. The company commander may have to use many small detachments if the sector is exceedingly wide. The narrower the sector, the fewer small isolated detachments are required. Due to the varying composition of a reinforced company and the variable frontages assigned to reinforced battalions, guide figures for widths of sectors are impractical in mobile defense.

262. ORGANIZATION OF OUTPOST SYSTEM

a. The outpost system is composed of observation posts (listening posts at night) and strong points of varying strength (par. 172). The observation posts and listening posts are set up forward of the strong points to observe and report enemy activity to the proper headquarters, and to direct artillery fire. The strong points are located on key terrain

features, covering likely avenues of enemy approach, and are mutually supporting, as far as possible. Their mission is to deceive, slow, stop, and repel the enemy. Strong points are organized for all-around defense.

b. The company seldom holds out a support since the extended frontage characteristic of mobile defense normally demands the use of all platoons in the forward areas. If the frontage is narrow enough to permit a support, it is used to reinforce a strong point that is threatened by the enemy. If the entire company is occupying one key terrain feature and its platoon defense areas are mutually supporting, the support is used as in sustained defense with emphasis on protection of the flanks and rear (fig. 44).

263. ORGANIZATION OF THE GROUND

Whenever possible, at least a reinforced platoon should be assigned to organize each key terrain feature. When not possible, the reinforced platoon may be assigned to organize two localities. Alternate and supplementary positions, and routes to them, are reconnoitered for the tanks. Road blocks and mine fields, when established, are covered by both antitank and antipersonnel fires. However, these obstacles are located so that they do not hinder the counterattack by the reserve. Advantage is taken of all natural obstacles to delay, slow, and harass the enemy. At night, or when visibility is poor, tanks are sited to fire down roads or similar avenues of approach for enemy armor. The armored infantry digs in along forward slopes of key terrain features as in sustained defense (par. 166).

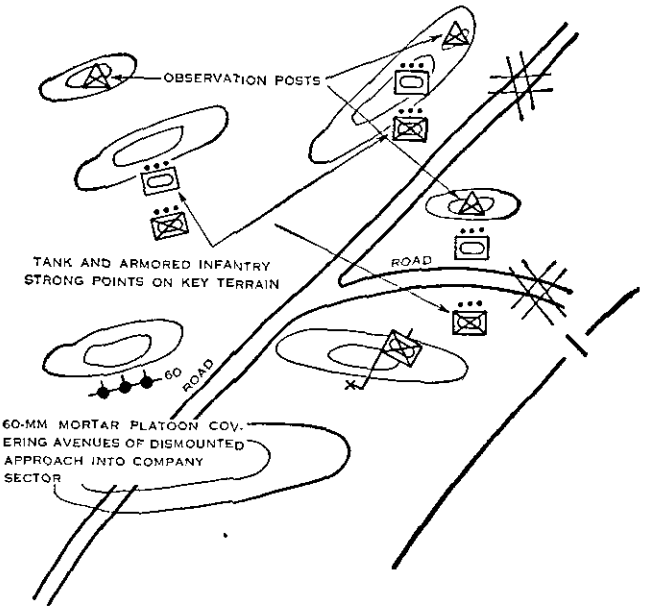


Figure 44. Organization of a company sector on outpost system in mobile defense.

264. FIRE PLAN

a. General. Fire plans are made to take full advantage of available fire power. The fire plan consists mainly of preplanned artillery and mortar concentrations. Adjacent organized positions on the outpost system establish mutually supporting and interlocking bands of automatic weapons fire when their location permits. Fire plans include supporting fires for all planned counterattacks by the battalion reserve and are flexible enough to allow support for any counterattack that is not planned. The

company commander coordinates the fires of his weapons with those of supporting weapons and artillery. This coordination includes—

(1) Fires of attached tanks.
(2) 60-mm mortar fires.
(3) Light machine-gun fires of light machine gun squads.
(4) Fires of vehicular weapons (machine guns and rocket launchers).
(5) Fires of battalion mortar platoon.
(6) Artillery fires.
(7) Air.

b. Tank fires. In mobile defense, the tanks provide antitank protection and support the outposts with HE and machine gun fire.

c. Light machine-gun fires. In mobile defense these fires are used to cover approaches and road blocks, defend obstacles, and, when possible, to fire final protective liens in front of organized positions.

d. Fires of vehicular weapons. Rocket launchers are used to supplement the antitank defense provided by the attached tanks. Since frontages are extremely wide in mobile defense, maximum use is made of carrier machine guns. The mobile fire power of these weapons gives added strength to the outpost.

e. Fires of battalion mortar platoon. The company commander ascertains what barrages and concentrations are planned for his sector by the battalion mortar platoon. He coordinates these fires with the fires of his organic and attached weapons.

f. Artillery fires. The fire of the organic and attached weapons is coordinated closely with the

barrages and concentrations of the direct support and general support artillery.

g. Air. A higher command decides whether to employ tactical air, but his decision is based largely on requests and reports sent in by the outposts. Cooperating air power cannot be coordinated into the fire plan because of the difficulty of timing air strikes on very short notice. However, friendly aviation is very effective against hostile armor concentrations and is used when available to break up and harass enemy armored formations. Often a well-timed request for an air strike on an enemy assembling for an attack may completely disrupt that attack; at the least, an air strike will inflict casualties and delay and harass the attacker.

265. DISPOSITION OF VEHICLES

Carriers are kept available to their squads, both at observation posts and strong points, because the squads may have to move quickly. Vehicular weapons normally are integrated into the fire plan (par. 264).

266. CONTROL

The primary means of control is radio. Because of extended frontages and distance between positions, wire is seldom used for control purposes. Close coordination between the outpost system and its observation posts is necessary for word of enemy activity to get back quickly to higher headquarters. It may be necessary to operate patrols between strong points during darkness and to safeguard areas not

covered by strong points or, by observation, by employing patrols during daylight.

267. CONDUCT OF DEFENSE

a. High-performance aircraft and liaison planes normally give the first warning of the enemy's approach. The observation posts warn of the enemy's close approach. It is essential that information about the enemy flow up the command channel from the company commander on outpost to higher headquarters. When the enemy approaches within range of the supporting artillery, the observation posts may direct and adjust fire. The outposts prepare to meet any attack.

b. When the enemy attacks, the observation or listening posts give warning and maintain contact while falling back to the strong points. The platoon leader relays the information to the company commander, calls for supporting fires as needed, and holds his position. The strong point attempts to ambush the enemy and makes every effort to delay the enemy force, to cause it to deploy, to stop it, and to destroy it. The strong point normally does this by combining its tank and small-arms fire with the supporting fires available and the natural or artificial obstacles already established. The position is defended even if bypassed. The unit defending a strong point is prepared to withdraw to a supplementary position if threatened with extinction. However, it withdraws only on approval of the battalion commander. If the mobile reserve of the combat command is used to counterattack, the strong points fix the enemy by continuing to fire.

c. If ordered by the battalion commander to yield ground in the face of a strong enemy attack, the company commander withdraws his outpost system to previously reconnoitered defensive positions in the rear. Here the defensive system is reorganized similar to the initial positions. Ground is never yielded haphazardly by individual outposts or by the company, but only on order of the battalion commander.

Section VI. REINFORCED RIFLE COMPANY AS PART OF A RESERVE BATTALION IN MOBILE DEFENSE

268. GENERAL

a. When the company is part of a reinforced battalion in the mobile reserve of the combat command, it normally prepares for and conducts its operations as part of the reinforced battalion (pars. 424–427).

b. If the reinforced company is used as mobile reserve for a reinforced battalion acting independently, the company also prepares for and conducts its operations as outlined in paragraphs 421–423.

PART THREE

THE ARMORED INFANTRY BATTALION

CHAPTER 10

BATTALION HEADQUARTERS, HEADQUARTERS AND SERVICE COMPANY

Section I. BATTALION COMMANDER

269. GENERAL

Command of an armored infantry battalion in battle is a supreme test of leadership. Fear, fatigue, hardships, casualties, and combat hysteria are constantly taxing the mental stability and physical stamina of the commander. In such an atmosphere, the battalion commander must measure his decisions in terms of human lives. Because of his great responsibility, the battalion commander must be an outstanding leader. As he usually commands a reinforced battalion composed mainly of tanks and infantry, he must understand the principles governing the tactical operation of his own unit, attached units, and supporting units.

270. RELATION WITH BATTALION STAFF

The battalion commander maintains a close, personal relationship with his staff. He encourages ini-

tiative and welcomes constructive suggestions. In turn he keeps all staff members fully informed of his policies so that during his absence they may act in his name. He insures that a feeling of mutual respect and confidence exists between the staff and the unit commanders. He avoids over-delegating authority to his staff or using it to conceal his own shortcomings.

271. RELATIONS WITH COMPANY COMMANDERS

The battalion commander is direct and personal with his company commanders. He encourages them to deal directly with him whenever they feel it is desirable. He often visits his companies and platoons to get first-hand knowledge of the situation and of the capabilities of his units. The battalion commander's relations with attached units is the same as with his organic units, except that the commander of an attached unit gives technical advice about the employment of his unit.

272. RELATIONS WITH COMMANDERS OF SUPPORTING UNITS

The battalion commander can only request assistance from supporting units since they are not a part of his command. Ordinarily, his request is granted unless it is tactically unsound or contrary to orders of higher commanders. Communication and liaison are established with units operating with or supporting the battalion. Commanders of supporting units advise and assist the battalion commander.

273. CONDUCT IN COMBAT

a. By plans, orders, and supervision, the battalion commander causes every individual and piece of equipment to make an effective contribution to accomplish his mission. He coordinates the efforts of his command with those of flanking and supporting units. Before requesting additional assistance, he utilizes all the means at his disposal.

b. To maintain security and prepare for future operations, he uses observation, patrols, liaison, and personal reconnaissance in the battle area. He assigns definite missions to his company commanders, and he keeps informed of their progress. He gives assistance when needed to insure the success of his plan.

c. The battalion commander goes where he can best direct and control his battalion. Before leaving the command post he orients his staff on plans to be made or action to be taken in his absence, and reports his destinations and probable hour of return. Upon his return he informs his staff of any new development.

Section II. BATTALION STAFF

274. GENERAL

a. Unit staff. The members of the *unit staff* of the armored infantry battalion coordinate those functions of command that relate to their offices. The unit staff is composed of the—

(1) Executive officer (second in command).

(2) Adjutant (S–1).

(3) Intelligence officer (S–2).
(4) Operations and training officer (S–3).
(5) Supply officer (S–4).

b. Special staff. The following officers have technical and administrative duties or command units that qualify them to be grouped as members of the battalion commander's special staff. Included are the—

(1) Communication officer.
(2) Motor officer.
(3) Mortar officer (commander of mortar platoon).
(4) Surgeon (commander of medical detachment).
(5) Personnel officer.
(6) Artillery liaison officer (from supporting artillery).
(7) Headquarters commandant (commander, headquarters, headquarters and service company).

275. STAFF FUNCTIONING

a. A staff officer is an assistant to the commander. He transmits his commander's orders to unit commanders or conveys his commander's instructions or desires. In an emergency, staff officers are prepared to issue orders based upon the policies of the commander. Whenever a staff officer issues an emergency order, he informs the commander. The staff assists the commander by relieving him of time-consuming and distracting details. He is kept in-

formed by timely estimates of the situation and by a summary of reports from lower units. The staff keeps information up to date on the strength and location of units, enemy activities and capabilities, movements, positions and action of lower units, and the status of supply or other administrative matters. On the basis of this information, the staff makes recommendations to the commander. When a decision is made, the staff members assist in translating the decision into orders and in supervising its execution.

b. The staff cultivates friendly relationships with the commanders of lower or attached units. Commanders of lower or attached units are consulted to determine their capabilities, needs, and problems. Staff officers visit lower units to get first-hand knowledge of the tactical situation and administrative conditions. Commanders are contacted personally as the first and last step of each such visit. When conditions are observed that are known to be contrary to announced policies, they are called to the attention of the appropriate commander. Simple reports of facts are made to the battalion commander following such staff visits.

c. The staff officer organizes and trains his assistants to function in his absence. Staff duties are so arranged that one staff officer may function for another during short absences from the command post. Before leaving the command post, the staff officer acquaints himself with the general situation, announces his destination and probable hour of return, and determines what assistance he may be to other staff officers.

276. EXECUTIVE OFFICER

The executive officer is the principal assistant and advisor to the battalion commander. He coordinates and supervises the details of operations and administration, thereby enabling the commander to devote himself to the broader aspects of command. The main function of the executive officer is the direction and coordination of the battalion staff. He is responsible that the staff is organized and working as a team to provide maximum assistance to the commander and the battalion as whole. He sees that required reports are forwarded at the proper time, and that plans are being prepared for future contingencies. He insures that instructions issued to the command reflect the policies and plans of the commander. He supervises all liaison activities and liaison agents. The executive officer keeps familiar with the situation. During his commander's temporary absence, he represents him and directs actions so that they reflect the commander's policies. He is prepared to assume command at any time (fig. 45).

277. ADJUTANT (S–1)

a. The adjutant is responsible for the training and work of the S–1 section. The section is divided into the adjutant's group and the personnel officer's group. The adjutant's group consists of the adjutant, the battalion sergeant major, and clerks of the battalion headquarters platoon of headquarters, headquarters and service company. The personnel officer's group is headed by a warrant officer.

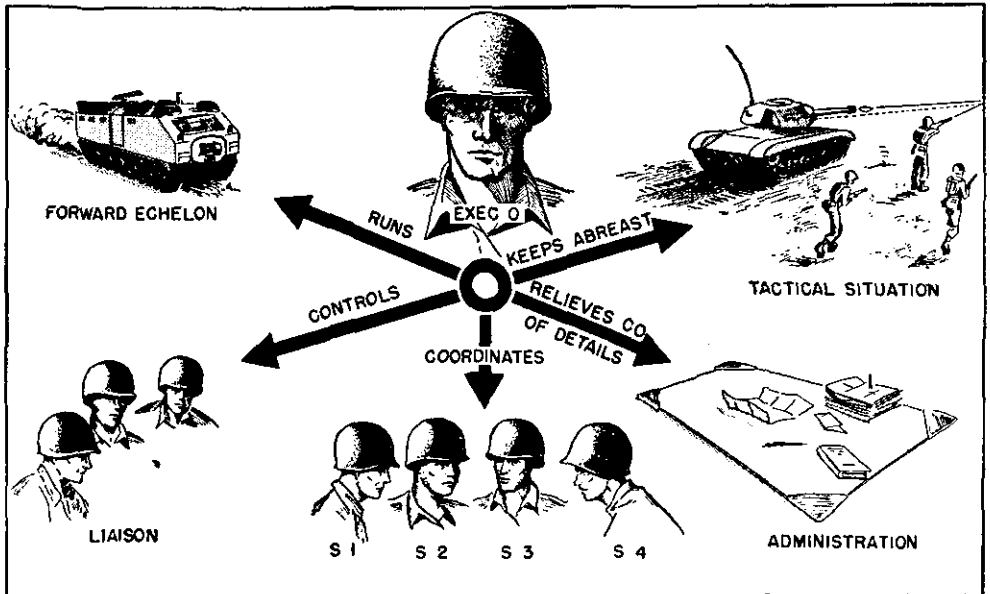


Figure 45. Functions of the executive officer.

b. Generally, the adjutant has duties similar to those outlined in FM 101–5 for the adjutant general and for the G–1 of division and higher units. The adjutant is responsible for the staff supervision of the administrative and personnel section. During combat, the personnel officer and his group normally are with the division trains as a part of the rear echelon; they may be with the unit field trains. The adjutant's group operates at the battalion command post.

c. In his administrative functions, the adjutant—

(1) Authenticates orders and instructions except those pertaining to combat.

(2) Processes official correspondence.

(3) Insures that administrative and personnel records are maintained according to established policies and procedures.

d. As S–1, the adjutant—

(1) Prepares strength records and reports.

(2) Prepares data for the unit report.

(3) Secures replacements and arranges for their reception and processing (coordinating with the S–3 and the S–4).

(4) Maintains absence without leave statistics, returns stragglers to their units, and supervises the processing of court-martial cases.

(5) Supervises the collection and evacuation of prisoners of war and maintains prisoner of war reports (coordinating with the S–2 and the S–4).

(6) Supervises graves registration functions (coordinating with the S–4, the surgeon, and the chaplain).

(7) Maintains morale activities in the battalion, such as recreation, decorations, citations, awards, honors, leaves, and passes. The S–1 coordinates with the chaplain and the surgeon on religious, welfare, and health matters. He supervises mail clerks and arranges for mail distribution and collection.

(8) Supervises the control of civilians, displaced persons, and refugees (coordinating with the S–2, the S–3, and the S–4). When a civil affairs or military government detachment is with the battalion, it normally functions under the supervision of the S–1.

(9) Makes administrative recommendations about transfers, assignments, reassignments, promotions, demotions, classification, and reclassification of personnel.

(10) Supervises movement of the command post, and arranges the interior of the command post. This includes allotting space to the commander and staff sections.

(11) Secures and administers local labor. He provides quarters and other facilities necessary for Department of the Army civilians serving with, or attached to the battalion (coordinating with the S–2, the S–4 and, if available, the civil affairs detachment commander).

(12) Allots space and shelter in the headquarters area for the troops and for the headquarters (coordinating with the S–3 and the S–4). He may supervise the quartering parties and quartering arrangements in camp or bivouac.

(13) Prepares estimates and plans covering personnel activities for current and future operations.
(14) Prepares the personnel portion of paragraph four (administrative paragraph) of the battalion operation order.
(15) Accomplishes all functions not specifically the responsibility of another staff officer, or as directed by the battalion commander.

278. INTELLIGENCE OFFICER (S–2)

a. The main responsibility of the intelligence officer (S–2) is to keep his commander, and all others concerned, fully informed of the enemy situation, capabilities, and courses of action, and of the terrain and weather. He recommends counterintelligence measures to deceive and deny information to the enemy.

b. Among his specific duties, the S–2—
(1) Supervises and trains battalion intelligence personnel.
(2) Plans and supervises intelligence and counterintelligence training for all personnel of the battalion (coordinating with the S–3).
(3) Prepares collection plans, orders and requests to collection agencies (coordinating with the S–3).
(4) Records and files information, using a situation map and S–2 work sheet.
(5) Evaluates and interprets information and disseminates intelligence to the commander and staff and to higher, lower, and adjacent units.

(6) Examines captured enemy personnel, documents, and material, and civilians—hostile or friendly—for information of immediate value to the battalion.
(7) Procures and distributes maps, aerial photographs, and photomaps for the battalion.
(8) Establishes and supervises the operation of battalion observation posts.
(9) Coordinates battalion collecting agencies. Maintains intelligence liaison and exchange of information with higher and adjacent headquarters.
(10) Receives and issues photo interpretation reports and defense overprints from higher headquarters.
(11) Records and disseminates intelligence on the types, characteristics, and methods of enemy chemical, radiological, and biological warfare, and on the location and extent of contaminated areas.

279. OPERATIONS AND TRAINING OFFICER (S–3)

a. The operations and training officer (S–3) is charged with staff responsibility for matters of organization, training, and combat operations of the battalion.

b. Among his specific organization duties, the S–3—

(1) Makes a continuous study of the organization of units; prepares recommended changes to tables of organization and equipment.

(2) Recommends assignment and attachment of units (coordinating with the S–1 and the S–4) based upon organization that helps to achieve the mission (includes organization for movement, training, and combat).

(3) Studies personnel and equipment requirements; coordinating with the S–1 and the S–4.

c. Among his specific training duties, the S–3—

(1) Prepares training directions, programs, orders, field exercises, and maneuvers, based on plans approved by the battalion commander.

(2) Selects training areas and ranges and allocates training aids and other training equipment.

(3) Organizes and conducts schools within the battalion. Based upon the commander's directives, he prepares the program of instruction, selects and trains instructors, and assists in selection of units or personnel to attend the school.

(4) Makes training inspections and prepares and supervises training tests.

(5) Prepares training records and reports.

(6) Coordinates information and educational activities.

(7) Trains and supervises the S–3 section.

d. Among his specific combat operations duties, the S–3—

(1) Informs his commander and other staff sections of the tactical situation and is prepared to make recommendations.

(2) Studies the situation as affected by the enemy situation; orders from the combat command commander; actions of adjacent and supporting units; location and capabilities of his own troops; casualties and replacements; terrain and weather; and the status of supply and equipment.

(3) Maintains up-to-date information to keep the commander informed and to aid in the preparation of reports. He supervises the posting of information on the situation map.

(4) Recommends the general location of bivouacs, assembly areas, and attack positions.

(5) Coordinates reconnaissance measures within the battalion, to include intelligence missions when combat troops of the battalion are involved (coordinating with the S–2). He also plans security measures to be used by the battalion on marches and at halts, in assembly areas, at administrative and command installations, and when engaged with the enemy.

(6) Plans troop movements to include units involved, formation, and type of transportation required (coordinating use of transportation with the S–4). He prepares the march order after the plan of movement is approved.

(7) Recommends the tactical employment of units. Recommendations are made after a study of the capabilities of units, the enemy situation, the terrain and weather, and after conference with other staff officers and unit commanders.

(8) Recommends measures to attain secrecy and effect surprise (coordinating with the S–2) (fig. 46).

(9) Coordinates with the communication officer in the preparation of the signal communication plan in order to maintain communication between the battalion commander, battalion headquarters, and units of the battalion. The S–3 keeps the communication officer informed of operation plans.

(10) Recommends the general location of command posts according to the operation plan.

(11) Prepares the battalion operation order for the commander's approval. Some material for inclusion in the order is obtained from other staff officers (S–1, S–2, S–4, and communication officer). After approval, the S–3 publishes, authenticates, and distributes the order, and assists in supervising its execution.

(12) Transmits the commander's orders and instructions to units of the battalion; helps unit commanders by interpreting orders and instructions if necessary.

(13) Prepares plans for future operations, guided by information obtained from the commander and by knowledge of the present situation of the battalion.

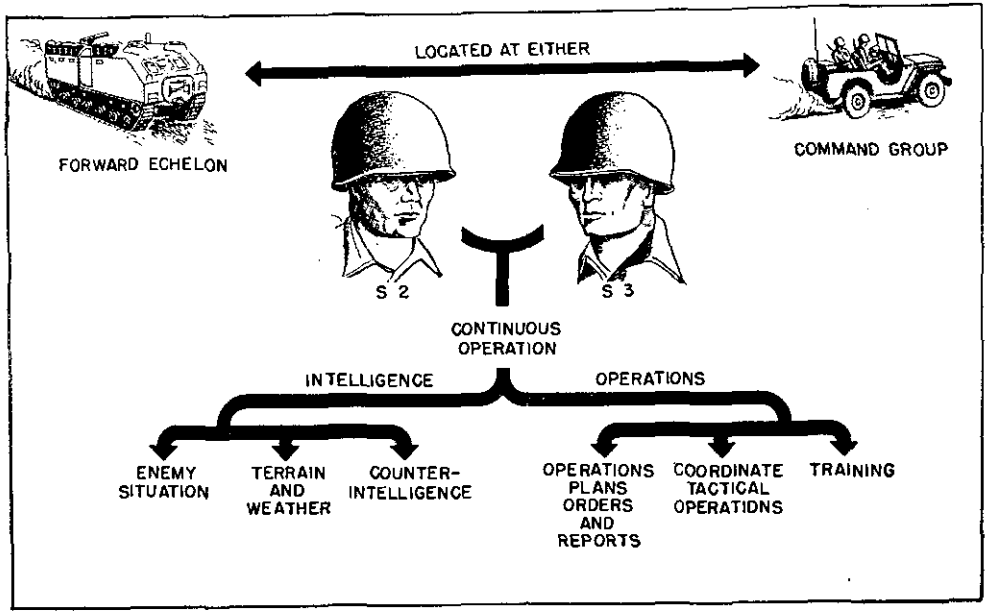


Figure 46. Coordination between S-2 and S-3.

(14) Prepares after-action reports and recommends training to correct combat deficiencies.
(15) Maintains the unit journal.

280. BATTALION SUPPLY OFFICER (S–4)

a. The S–4 has the staff responsibility for logistical support, keeping the battalion commander informed of the status of supply, maintenance, and evacuation. He exercises control and coordination of transportation. He keeps himself informed on the location of division and army supply installations upon which he depends to meet the battalion's requirements.

b. The S–4 and his assistants maintain personal contact with the supply officers of the higher units and the various supply installations serving the battalion. When at the battalion headquarters, the S–4 uses communication facilities of the administrative carrier which has a radio in the combat command administrative net and another in the battalion command net.

c. The battalion S–4 bases his logistics plan on the—

(1) Battalion commander's decision.
(2) Tactical situation to include the mission.
(3) Administrative situation, including a detailed knowledge of the status of supply, evacuation, maintenance, transportation, available personnel, and administrative orders or instructions.

(4) Terrain over which the battalion will move, including roads and trails in the area.
(5) Supply plan of higher units.

d. Among his principal duties, the S–4—

(1) Keeps the battalion commander informed of the logistical situation and advises him on logistical matters.
(2) Plans, coordinates, and supervises supply, maintenance, and evacuation for the battalion (coordinating with the battalion surgeon, motor officer, and communication officer).
(3) Procures, stores, and distributes all supplies required by the battalion. However, medical, vehicular, and signal items are usually procured by the battalion surgeon, motor officer, and communication officer, respectively. The S–4 supervises and insures the procurement of these items.
(4) Determines future supply requirements, particularly for seasonal changes.
(5) Coordinates logistical matters with the combat command S–4, the division G–4, and the division technical staff officers.
(6) Controls the organization, composition, movement, and protection of the battalion combat trains.
(7) Assists company commanders in supply matters.
(8) Recommends requirements, allocations, and movement of battalion service elements to support the tactical plans.

(9) Allocates regulated items of supply (coordinating with the battalion S–3).
(10) Establishes and disseminates supply policies and procedures and logistical instructions and orders.
(11) Supervises all administrative transportation within the battalion and coordinates with the battalion S–3 in the planning and control of movements and traffic.
(12) Supervises property accounting and property records and maintains records to reflect the current logistical situation.
(13) Submits logistical reports as directed by the commander and higher headquarters.
(14) Supervises organizational maintenance and repair of equipment, supplies, and utilities.
(15) Provides transportation for the evacuation of prisoners of war and the dead (coordinating with the battalion S–1).
(16) Supervises food service activities in the battalion.
(17) Arranges for laundry and bathing facilities for the battalion.
(18) Prepares paragraph 4 of the operation order.
(19) Procures real estate and handles purchasing and contracting matters, when required, for the battalion.

281. BATTALION SURGEON

The battalion surgeon is a member of the battalion commander's staff and commands the battalion

medical detachment. He supervises the technical training of the battalion in personal hygiene, field sanitation, and first aid. He coordinates with the battalion S–4 on evacuation and sanitation. Among his specific duties, the battalion surgeon—

a. Prepares a battalion medical plan based on the combat command plan, the tactical situation, and the plans of the commander.

b. Recommends a site for the battalion aid station, supervises its operation, and assists in the care and treatment of casualties.

c. Plans for and supervises the evacuation of casualities to the battalion aid station.

d. Keeps the battalion commander, the combat command surgeon, and other staff sections informed of the medical situation within the battalion area.

e. Makes timely requests to the division surgeon for additional medical supplies and replacements.

f. Supervises the training of the medical detachment.

282. BATTALION MOTOR OFFICER

The battalion motor officer supervises and coordinates the vehicular maintenance in the battalion; keeps the S–4 informed about vehicular maintenance and evacuation; works closely with the company motor officers and is responsible for the use of all battalion maintenance facilities. His main duty is to keep all vehicles in efficient operating condition. He is responsible for liaison and coordination with higher maintenance echelons. In battle, he supervises the recovery and evacuation of vehicles from the battlefield and maintains close contact with sup-

porting ordnance elements. He supervises the training of the men in the battalion maintenance platoon and recommends training programs for all maintenance personnel in the battalion.

283. COMMUNICATION OFFICER

The duties of the communication officer are generally the same as those of the division signal officer. His actions are based upon the policies of his commander and the division standing operating procedure. He keeps himself fully informed of present and contemplated activities of his unit. Among his principal duties, the communication officer—

a. Advises the commander and staff on communication matters and makes plans and recommendations for establishing the communication system.

b. Supervises the installation, operation, and maintenance of the communication system.

c. Coordinates communication with higher, adjacent, supporting, and attached units.

d. Prepares plans for displacement or extension of the existing communication system.

e. Submits recommendations for the procurement and replacement of communication personnel.

f. Supervises the maintenance of communication security, including the use of codes, ciphers, and authentication systems.

g. Supervises the care, maintenance, and repair of communication equipment.

h. Submits recommendations for paragraph 5 of the operation order, including initial and subsequent command post locations.

i. Assists in the preparation of training directives on communication and supervises technical training of all communication personnel and any others designated by the commander.

j. Determines the requirements for communication equipment and supplies and collaborates with the supply officer in their procurement, storage, and distribution.

k. Secures from higher headquarters signal operation instructions (SOI) and standing signal instructions (SSI) and prepares extracts for use in his unit.

l. Prepares (for approval) orders, codes, and a standing operating procedure (SOP) on communication.

m. Assists in selecting the exact location for the command post and selects locations for communication agencies in the command post.

284. GAS OFFICER

a. The battalion commander will designate an officer to function as battalion gas officer in addition to his other assigned duties. He advises the battalion commander and staff on all matters pertaining to chemical, radiological, and biological defense. He maintains close liaison with the division chemical officer. Normally, his operational activities are coordinated with the battalion surgeon and supervised by the battalion S–3 (FM 21–40).

b. In the event any weapons or equipment are attached to the battalion for the offensive use of chemical, radiological, or biological agents, the commander of the attached unit will advise the battalion commander on their use. In that case the battalion

gas officer maintains close liaison with the attached unit and continues to advise the battalion commander on defense against our own or enemy contamination.

c. Among his duties, the gas officer—

(1) Supervises training in chemical, radiological, and biological defense (coordinating with the S–3).

(2) Makes recommendations about supply of protective equipment.

(3) Supervises the installation and maintenance of defensive equipment.

(4) Supervises decontaminating activities.

(5) Supervises the reconnaissance for contamination of routes and areas before their use by troops.

(6) Makes recommendations for the tactical and collective protection of the battalion.

(7) Works with the S–2 in securing information on types, characteristics, and methods of enemy chemical, radiological, and biological warfare.

285. ARTILLERY LIAISON OFFICER

The direct-support armored artillery battalion sends a liaison officer to the supported unit. This officer gives artillery information and recommends fire support to the armored infantry battalion commander and staff. The liaison officer stays with the armored infantry battalion commander, keeps his parent unit constantly informed of the plans of the reinforced armored infantry battalion, and gives general supervision to the artillery forward observers attached to it.

286. COMMANDER HEADQUARTERS AND SERVICE COMPANY

The headquarters and service company commander, in addition to his other duties, serves as headquarters commandant for the forward echelon (CP). He often assists the battalion supply officer and may command the battalion field trains. If he moves with the forward echelon (CP), he is responsible for the organization and security of the command post and its movement.

287. HEADQUARTERS ECHELONS

The battalion headquarters normally is divided into two echelons—the forward echelon, or command post, and the rear echelon. A command group often operates out of the forward echelon.

a. The purpose of the *command group* is to help the battalion commander control combat operations. By establishing a command group, he can closely supervise operations; promptly make decisions and changes in plans; and keep higher headquarters informed of the situation, usually, through the forward echelon. The command group usually consists of the battalion commander, the battalion S–3, necessary liaison and communication personnel, and vehicles equipped with command radio facilities. It remains highly mobile and well forward during operations. During the battle the commander is usually accompanied by the supporting artillery commander or his liaison officer, and by the tactical air control party if one is working with the battalion. The command group can quickly and directly influence the course of battle and can insure the immedi-

ate exploitation of all successes. It operates out of the forward echelon, returning as the situation permits.

b. The purpose of the *forward echelon* (*CP*) is to provide personnel and facilities for the control of battalion operations. The forward echelon maintains communication with higher, adjacent, supporting, and lower units. It makes reports to the command group on new developments in the situation; continuously makes plans for current and future operations; provides for liaison with adjacent and higher units; and supervises liaison with supporting and lower units. The forward echelon usually consists of the executive officer, S–1, S–2 (if he is not in command group), S–4, and communication officer, with their respective enlisted personnel and vehicles. The combat trains are normally located near the forward echelon. The forward echelon follows closely, by bounds, the combat elements of the battalion (fig. 47).

c. The rear echelon consists of that portion of the battalion headquarters whose immediate assistance is not required by the battalion commander. The reason for grouping this portion of the staff into a separate echelon is to increase the mobility and security of the forward echelon. The mission of this rear echelon is to supervise the administrative and logistical functions of the battalion.

Section III. HEADQUARTERS AND SERVICE COMPANY

288. GENERAL

a. Organization. The headquarters, headquarters and service company of the armored infantry bat-

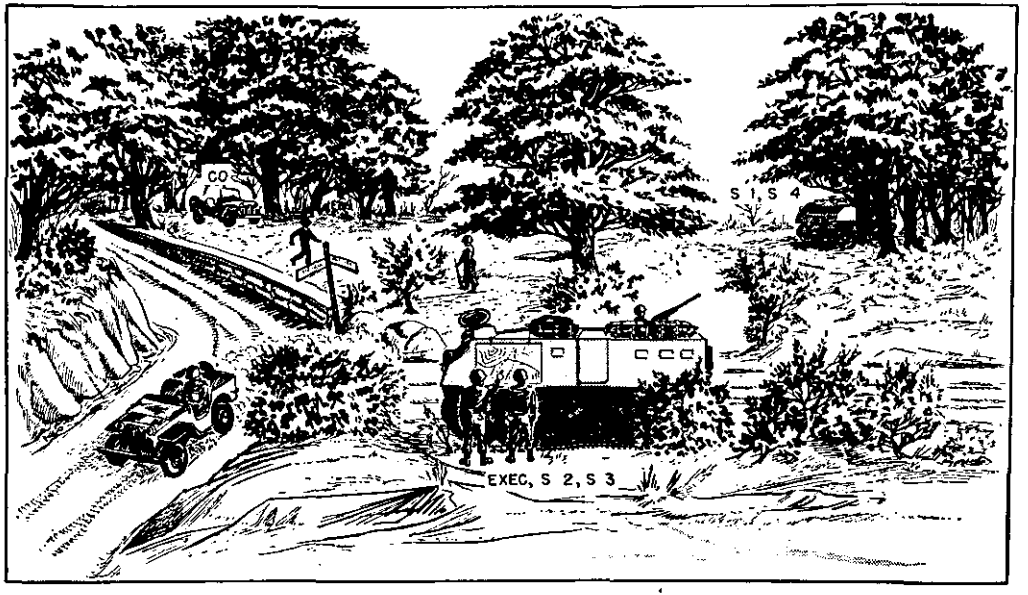


Figure 47. The forward echelon of battalion headquarters remains mobile during actual combat and usually operates directly from the various command and staff vehicles.

talion consists of a battalion headquarters and a battalion headquarters and service company. The battalion headquarters contains the battalion commander and his commissioned and warrant officer staff. The headquarters and service company has a company headquarters, the battalion headquarters platoon, the battalion reconnaissance platoon, the battalion mortar platoon, the counterfire squad, the battalion administrative and personnel section, the battalion supply platoon, and the battalion maintenance platoon. The detailed list of personnel and equipment can be found in T/O & E 7–26N.

b. Mission. The mission of the headquarters, headquarters and service company is to provide command, reconnaissance, mortar support, counterfire analysis, administration, maintenance, and supply for the battalion.

289. BATTALION HEADQUARTERS AND HEADQUARTERS PLATOON

a. The *battalion headquarters* contains the battalion commander, battalion executive officer, adjutant, S–2, S–3, S–4, the communication officer, three liaison officers, a warrant officer for supply, and a warrant officer for personnel.

b. The *battalion headquarters platoon* contains the enlisted members of the battalion staff sections and the battalion communication personnel. Included in the battalion headquarters platoon are the battalion sergeant major, the operations sergeant, the intelligence sergeant, the communication sergeant, the message center chief, and radio operators, clerks, and

drivers. The headquarters platoon also has enough equipment, vehicles, and communication facilities for the efficient operation of the battalion headquarters. For details of personnel and equipment, see T/O & E 7–26N.

290. COMPANY HEADQUARTERS

The company headquarters consists of a headquarters section, a maintenance section, and an administrative, mess, and supply section.

a. The *headquarters section* includes the company commander, the company communication sergeant, the bugler, a radio operator, a messenger, a machine gunner, and a driver. The company headquarters is mounted in an armored personnel carrier. The company commander's duties are covered in paragraph 203.

b. The *administrative, mess, and supply section* clothes, equips, feeds, and maintains the records of all personnel assigned to the headquarters, headquarters and service company. It includes the administrative warrant officer, the first sergeant, the company administrative clerk, the supply sergeant, the mess steward, the cooks, filler personnel, and the drivers for the vehicles. For details of personnel and equipment, see T/O & E 7–26N.

(1) The *first sergeant* normally rides in the company headquarters vehicle. He assists in setting up the company command post, establishing local security, and coordinating resupply and maintenance within the company.

(2) Before combat the *company supply sergeant* and *administrative clerk*, the *fillers*, and the supply truck report to the battalion supply platoon. There they are joined by the same personnel and equipment from the rifle companies. The company supply sergeant may serve as an acting chief for that section of the supply platoon which services headquarters and service company. Fillers handle supplies until needed to replace casualties.

(3) The kitchen truck seldom goes with the company into combat. It normally reverts to the battalion field trains. The kitchen may be sent forward to feed a meal, or it may prepare hot meals in the field trains area and have these meals delivered to the men by ¼-ton truck or on maintenance or supply vehicles.

c. The company *maintenance section* consists of the company motor officer, the motor sergeant, armorers, automotive mechanics, tank mechanics, and a radio repairman. This section has the function of keeping all headquarters, headquarters and service company vehicles operating at maximum efficiency. Normally, it performs only organizational maintenance. Vehicles needing more extensive repairs are turned over to the battalion maintenance platoon.

(1) The *motor officer* is responsible to the company commander for all maintenance work within the unit and for the functioning of the maintenance section. He conducts frequent spot checks and inspections of the

vehicles in the command and instructs personnel in correct maintenance procedures. He also works closely with the battalion motor officer, from whom he secures technical advice and assistance.

(2) The *motor sergeant* supervises the organizational maintenance of the company. He is in charge of the company reserve of spare parts and keeps scheduled maintenance records.

291. RECONNAISSANCE PLATOON

a. The reconnaissance platoon of the armored infantry battalion is a tactically self-contained combat unit, which usually operates under battalion control. It provides reconnaissance and security for the battalion and it executes independent missions. The platoon is organized to operate as a team and to maintain its command and tactical unity, it should be assigned only one mission at a time. Suitable missions are—

(1) Close-in, advance, and flank security, and reconnaissance patrols.
(2) Route, site, and bivouac reconnaissance.
(3) Selection and organization of assembly areas.
(4) Guiding the battalion in day and night movements.
(5) Escorting and guiding battalion supply vehicles.
(6) Liaison and contact between units.

b. For details of employment, see FM 17–22.

292. MORTAR PLATOON

a. The 81-mm mortar platoon gives close and continuous fire support to the companies of the battalion and is usually employed under battalion control. The platoon is mounted in armored personnel carriers, and the mortars may be fired either from the carriers or from ground mounts.

b. Among its specific missions, the platoon—

(1) Supports advancing friendly forces by neutralizing enemy positions.
(2) Fires countermortar fires, smoke missions, interdiction fires, harassing fires, defensive fires, and protects units during reorganization and consolidation on an objective.
(3) Repels enemy counterattacks.
(4) Supports outposts.

c. Maximum effective range: HE light ammunition about 3,300 yards (effective bursting radius 17 yards), HE heavy ammunition about 2,600 yards, and WP about 2,400 yards.

d. Suitable targets for the 81-mm mortar platoon include—

(1) Grouped personnel.
(2) Reverse slopes and defilade areas.
(3) Crew-served weapons.
(4) Light fortifications.

e. A forward observer, usually a squad leader, goes forward with each reinforced company. He controls the fire of the platoon as needed by the reinforced company. The forward observer does not necessarily stay with the company commander at all times; however, the company commander keeps in

communication with the forward observer. Having a forward observer with each company permits fire requests to go to the mortar platoon by the most direct channel. (fig. 48).

f. The communication facilities available to the 81-mm mortar platoon are radio, wire, messenger, and visual signals. One radio is operated in the battalion command net. The rest of the radios operate in a platoon fire control net, one with each forward observer and one at the platoon fire direction center.

g. Fire requests from the reinforced company normally are sent by or through the forward observer of the mortar platoon. Fire requests may be sent through command channels if the forward observer cannot be contacted readily. For procedure see paragraph 35.

293. COUNTERFIRE SQUAD

a. In the armored infantry battalion, counterfire operations are coordinated by the S–3 section. The battalion counterfire noncommissioned officer operates a counterfire information center under the supervision of the S–2 and also assists the S–3 in counterfire and countermortar matters. The counterfire squad has a sound-locating set consisting of two microphone arrays with three microphones each, connected by an electric cable to a recorder, and the necessary computers, aiming circles, plotting boards, and communication equipment.

b. Normally, the counterfire squad operates in close association with the battalion mortar platoon. Then it stays within a few hundred yards from the mortar

Figure 48. Forward observer from mortar platoon operating in an attack.

firing positions and keeps in contact with the mortar platoon by radio or telephone. When operating in close association, the locations of the counterfire squad and the mortar platoon should be surveyed. If they are not surveyed, the mortar platoon leader can convert information from the counterfire squad into firing data by using the normal observed fire procedures. When speed is important, and if the mortar platoon and the counterfire squad displace too often to allow them to survey their positions, they move closer together and operate in immediate association. In this method, the base weapon of the mortar platoon is not more than 15 yards from the No. 3 microphone of the control team. Information from the counterfire squad is not converted but is used as firing data by the mortar platoon. When operating in immediate association, range and azimuth from the team to the target are about the same as from the mortar to the target. The mortar platoon uses the range and azimuth provided by the counterfire squad to destroy or neutralize the target. For details on employment of the counterfire squad, see FM's 6–20, 6–130, 7–25, 30–10, and TM 11–2552 *(figs. 49 and 50)*.

294. BATTALION SUPPLY PLATOON

The supply platoon is organized and equipped with the men and trucks necessary to transport all types of supplies from division supply points to the companies of the battalion. During operations the bulk of the supply platoon marches as part of the battalion field trains, generally with the combat

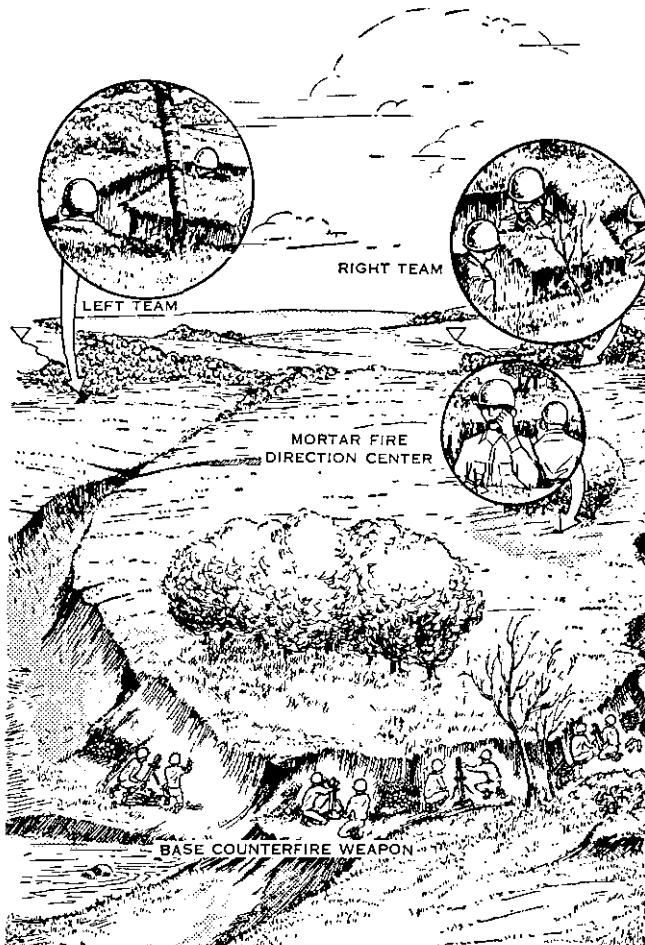


Figure 49. Counterfire squad in close association with battalion mortar platoon.

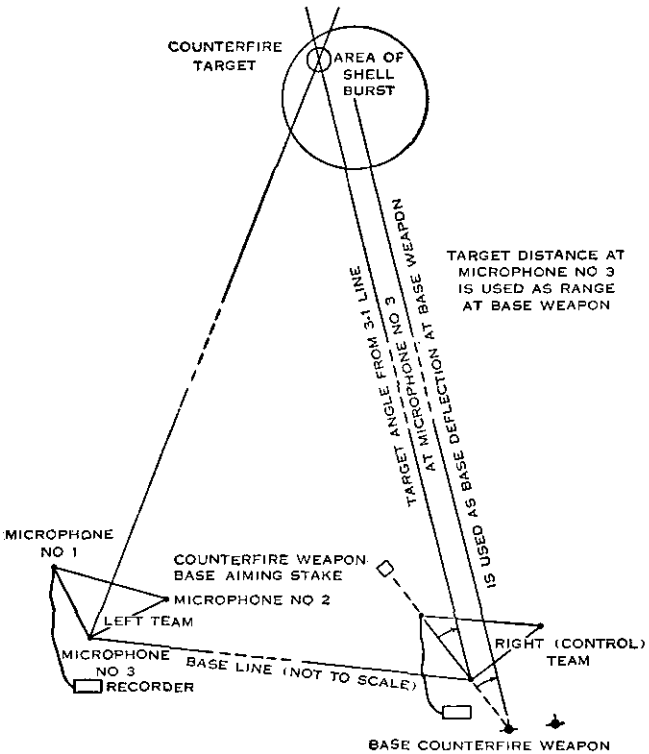


Figure 50. Counterfire squad in immediate association with mortar platoon.

command field trains. Trucks loaded with fuel, lubricants, and ammunition march with the combat trains of the battalion to expedite resupply. After resupplying the companies, empty trucks are consolidated and moved promptly to the division or army supply points to replenish their loads. For employment of the platoon, see paragraphs 119–123.

295. BATTALION MAINTENANCE PLATOON

The maintenance platoon is organized and equipped to supervise and perform organizational maintenance, recovery, evacuation, and resupply of parts for weapons and vehicles of the battalion. The maintenance platoon accompanies the battalion in operations to perform battlefield recovery and maintenance. For employment of the platoon, see paragraphs 119–123.

296. BATTALION ADMINISTRATIVE AND PERSONNEL SECTION

a. The administrative and personnel section consists of the personnel sergeant and designated specialists. It relieves the company commanders of the battalion of the burden of administrative details, provides uniformity of personnel administrative accounting, and permits commanders to give their full time to matters of training, supply, and discipline. The section works under the supervision of the battalion adjutant (S–1).

b. The administrative and personnel section functions include classification, reclassification, assignment, reassignment, transfer, promotion, separation, and retirement of personnel; preparation of battle casualty records and reports (other than daily casualty reports); preparation of payrolls, allotments, and other forms involving pay; and maintenance of company and battalion records, reports, rosters, returns, files, and correspondence (AR 345–5). This section will normally be located with the division administrative center during combat.

Section IV. MEDICAL DETACHMENT

297. GENERAL

a. The medical detachment, an integral part of the armored infantry battalion, supervises and advises on health and sanitation measures within the battalion. This detachment operates the battalion aid station to give immediate care to battle casualties and to sick and injured. Company aid men with ¼-ton trucks are provided by the medical detachment. They are attached to combat companies to give emergency treatment and to evacuate casualties from the battlefield to the battalion aid station. Evacuation from the battalion aid station is normally done by ambulances from the supporting armored medical company or detachment (FM 17–50).

b. The battalion surgeon is a staff officer and also commands the detachment. He has a medical assistant and specially trained surgical and medical technicians to help in medical, health, and sanitation work.

c. The surgeon is responsible to the battalion commander for training the medical detachment. It is trained with the rest of the battalion in all tactical exercises to familiarize the men with the tactical employment of the battalion. The technically trained enlisted men of the detachment assist in teaching battalion classes in personal hygiene, first aid, and sanitation.

CHAPTER 11

THE ARMORED INFANTRY BATTALION IN OFFENSIVE COMBAT

Section I. GENERAL

298. GENERAL

The armored infantry battalion ordinarily attacks as a reinforced battalion of a combat or reserve command. The higher headquarters assigns the mission or missions, designates the zone or frontage, designates supporting and attached units, and fixes the time of attack.

299. TYPES OF ATTACK

a. Meeting Engagements. A meeting engagement is a collision between two opposing forces, neither of which is fully prepared for battle. In this type of action, time is vital. A great advantage accrues to the force that first attacks in a decisive direction. Meeting engagements occur often during exploitation.

b. Attack Against Outposts and Delaying Positions. Hostile security elements may occupy outposts or other delaying positions whose exact area, strength, and flanks are not easy to determine. This type of resistance is usually encountered in exploitation by the leading reinforced battalion. The lead-

ing battalion seeks to overrun these hostile elements. Should these efforts fail, the battalion maneuvers to outflank the hostile resistance, or to bypass it and continue the advance with the approval of his immediate commander.

c. Attack Against an Organized Position. Coordination and the development of great fire power are required in the first stages of an attack when the enemy has prepared and organized his position. The time needed for preparing and coordinating the attack of such a position varies with the extent to which the enemy has organized his defense.

300. MAIN AND SECONDARY ATTACKS

a. Attacks are classified according to their mission as main or secondary. An attacking force normally distributes its men and material for a main attack and one or more secondary attacks. All attacks are pushed to the limit of their power.

b. Main attacks are made against decisive objectives in the direction that offers the best possibility for success. A main attack is characterized by a narrow zone of action, a strong assault echelon, and heavy fire support.

c. Secondary attacks are made against objectives whose capture, or threat of capture, assists the main attack and induces the enemy to dissipate his supporting fires and reserves outside the decisive area. Secondary attacks are characterized by broad fronts and maximum available fire power in the assault echelon.

d. The distinction between main and secondary attacks is a very flexible part of the commander's

plan of attack and is not indicated in his attack order or imparted to lower unit commanders. Unexpected developments often cause a commander to change a secondary attack to the main attack. This is done by modifying the plan of maneuver, by shifting the weight of the supporting fires, and by relocating the reserve.

e. A reinforced armored infantry battalion commander sends the bulk of his force in the direction that offers the greatest possibility of success with the most decisive results and the minimum losses. Enough information of the enemy and terrain to enable the battalion commander to decide where to make his main and secondary attacks may not be initially available. In such case he may launch his attack in equal strength throughout his zone or he may attack in only one portion of his zone, maintaining flexibility by disposing his forces in depth. As the action progresses and weaknesses in enemy dispositions or terrain are discovered, he develops his main attack. Whenever the mission and information of the enemy and terrain permit, the battalion commander plans both the main and the secondary attack.

f. Attacks may be classified on battalion level as main or secondary, according to the relative importance of the objectives. The reinforced company or companies that are to make the main attack are given most of the available fire support and the bulk of the attached tanks. When a battalion attacks as an interior unit, maneuver is usually restricted, and company objectives are often closely adjacent to or parts of the same terrain feature. In

such cases, main and secondary attacks may differ little in strength or fire support; the main attack is identified only by the success of its advance and the measures taken to exploit it.

g. Diversions, demonstrations, and attacks by fire alone are not classed as secondary attacks. Such operations assist in neutralizing and deceiving the enemy, but such forces are not strengthened at the expense of the assault echelon.

301. FORMS OF ATTACK MANEUVER

There are two forms of offensive maneuver—envelopment and penetration (FM 100–5).

302. ENVELOPMENT

a. In an envelopment, the main attack is made against the flank or rear of the initial disposition of the enemy's main forces and toward an objective behind his front lines. Envelopment is used when a weak or exposed flnak is discovered and there is time to permit its envelopment. It has the advantages of capitalizing on surprise, exploiting enemy weakness, fighting on ground not chosen by the enemy, forcing the enemy to fight in more than one direction, minimizing the attacker's casualties, and accomplishing decisive results. Whenever possible the battalion commander seeks to envelop enemy resistance.

b. The principal causes of failure in an envelopment are an incomplete or complicated plan, a weak secondary attack, loss of surprise, inadequate information of the terrain or the enemy, and an insufficient

enveloping force. Frequently the enveloping force makes the main attack while other troops make the secondary frontal attack to hold the enemy in position. The enveloping force normally operates within supporting range and reinforcing distance of the parent unit. Envelopments may be divided into three classifications based on the location of the objective and the manner in which it is approached (fig. 51).

303. FORMS OF ENVELOPMENT

a. In a *single envelopment* the enveloping force moves around one flank of the enemy while a secondary attack is made against the enemy position. In this type of operation, a reinforced armored infantry battalion may make the main or secondary attack or both, or it may operate in either attack as part of a larger force. The enveloping force should move wide enough around the hostile flank to avoid becoming engaged with enemy forward dispositions. It normally moves as fast as possible to capitalize on the open enemy flank before the enemy can react.

b. A *double envelopment* is executed by three principal tactical groups—two enveloping attack forces and a secondary attack force. A battalion may take part in a double envelopment but rarely will one battalion make the multiple main and secondary attacks necessary in this operation.

c. In a *turning movement* the enveloping force passes around the enemy's main force and strikes to seize a vital objective deep in the hostile rear. A turning movement differs from other envelopments in that the enveloping force, which often advances

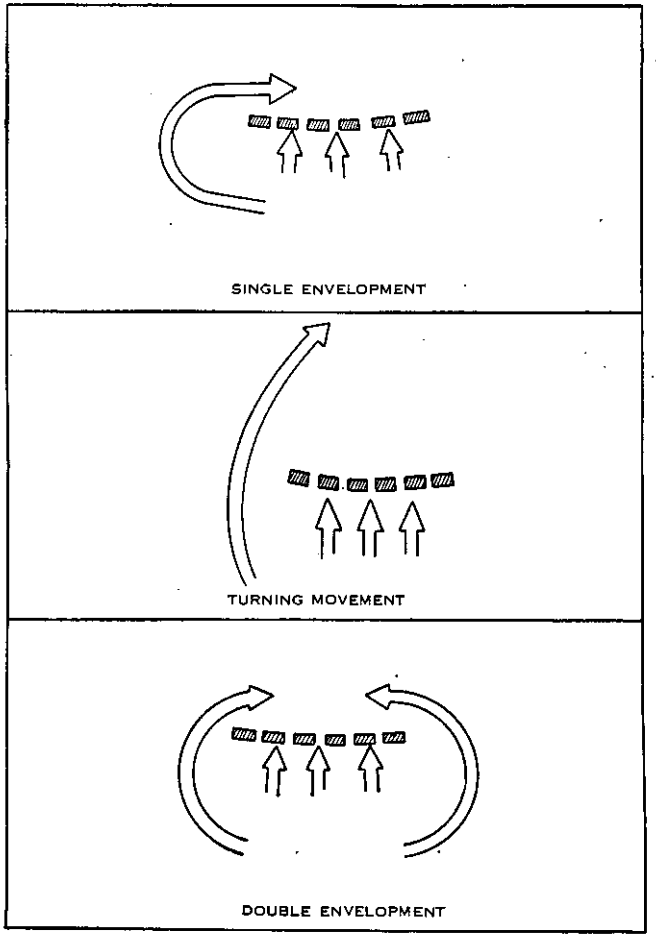


Figure 51. Forms of envelopment.

beyond supporting range and reinforcing distance of its parent unit, is temporarily an independent force. An armored infantry battalion participates in a turning movement as part of a larger force.

304. PENETRATION

In a penetration the main attack passes through some portion of the area occupied by the enemy's main forces and is directed against an objective in his rear. The penetration is used when no hostile flanks exist in the zone of the attacking unit, or when time is not available to locate gaps or flanks in the hostile defenses. The secondary attack exerts pressure on the enemy defenses while the main attack is made against the most advantageous portion of the enemy position. A corridor or wooded ridge line running to the objective is desirable for the main attack because it provides concealment for the penetrating force. The main attack consists of three impulses (fig. 52)—

a. Breaking through the hostile defenses.
b. Widening the gap to the desired width.
c. Seizing the objective.

305. EXPLOITATION PHASE

The object of the initial assault on the enemy's position, in either a penetration or an envelopment, is to create an opportunity for a force to exploit the success. The exploitation phase of an operation usually follows a successful penetration or envelopment. It is characterized by rapid advances against lessening resistance. As a rule the exploiting force is

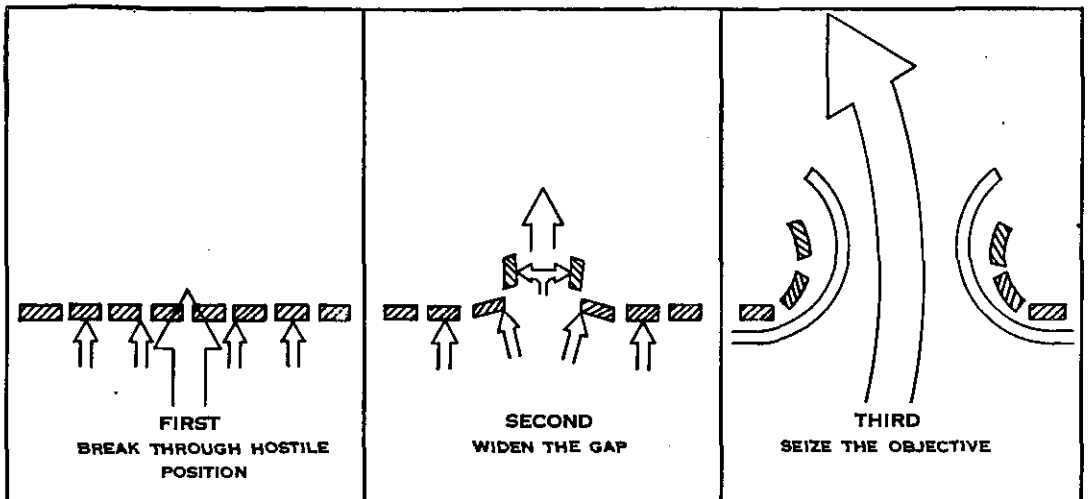


Figure 52. Impulses of a penetration.

given an objective, deep in the enemy rear, to be reached in the minimum time. Exploiting forces operating in enemy rear areas use, where possible, enveloping attacks against resistance that may be encountered and must be reduced. Turning movements behind flanks created by a successful penetration cut off enemy forces attempting to withdraw to the rear, or prevent reinforcements and supplies from reaching front-line enemy elements.

306. DISTRIBUTION OF FORCES IN THE OFFENSIVE

The attacking force is usually divided into three groups: the maneuvering force, the supporting force (base of fire), and the reserve (fig. 53).

307. MANEUVERING FORCE

a. The maneuvering force, also called assault force, makes the main effort of the battalion, closing rapidly with the enemy and using heavy fires. It is usually committed on a narrow front and in depth. Whenever the opportunity arises, the maneuvering force is used against an exposed flank, or flanks, of the enemy position, and attempts to envelop rather than to penetrate the position. It may have no choice (particularly when a narrow zone prevents a flanking movement) but to make a frontal attack supported by a base of fire located generally to its rear. Normally the reinforced armored infantry battalion uses only one maneuvering force.

b. When necessary, armored infantry attacks dismounted from the line of departure, reinforcing or reinforced by tanks. The vehicular weapons of the

personnel carriers, either dismounted or mounted, may be used to support the attack from appropriate positions.

c. Whenever possible, however, the armored infantry rides in carriers, which advance behind the tanks, and dismounts if necessary to make the final assault. The weapons of the personnel carriers then give close direct support. As the enemy position is reached and overrun, assault fires of all weapons of the maneuvering force are intensified to compensate for the lifting or shifting of support fires.

308. SUPPORTING FORCE (BASE OF FIRE)

In a reinforced armored infantry battalion, the supporting fires usually are provided by the direct-support artillery and the battalion mortar platoon. The base of fire may be reinforced with tanks and armored infantry, which support the attack by direct fire and may have the added mission of protecting the flanks of the maneuvering force. Tanks are placed in the base of fire only if the terrain will not permit their use with the maneuvering force, or if the supporting fires provided by other sources are inadequate. Tanks and armored infantry in the base of fire may be part of the battalion reserve.

309. RESERVE

When a reinforced armored infantry battalion makes the main effort as the maneuvering force in an attack by a combat command, it normally is organized to include only a maneuvering force and a base of fire. The establishment of a battalion reserve force is unnecessary, because a tank-armored infan-

try force can speedily move to, and concentrate a large volume of fire upon, any part of the immediate battlefield. However, part of the battalion may initially remain uncommitted, so as to be available at any time to exploit success. This uncommitted force may be either in the assaulting formation if that formation has sufficient depth, or with the base of fire element. When the situation is fluid or obscure enough to warrant establishing a reserve, it should be a balanced tank-armored infantry team. This reserve force may be part of the base of fire until it is needed for some other action.

310. FRONTAGES IN THE ATTACK

a. The frontage of a reinforced armored infantry battalion in the attack depends on the hostile dispositions, the composition and mission of the reinforced battalion, the terrain, and the volume of supporting fires. The combat or reserve command commander may assign the battalion a zone, or an axis, of attack.

b. A unit with a covering mission can be assigned a wide frontage. However, the sustained power needed for a penetration dictates a narrow frontage and great depth.

c. In wooded terrain, a narrow frontage is necessary for control. In open terrain, wider frontages are practical and desirable.

d. When the enemy has few antitank guns and his other antitank defenses are weak, a wide frontage may be assigned to the reinforced armored infantry or tank unit. If antitank defenses are concentrated at one point, a wide frontage may be required for envelopment. If the enemy antitank defenses are

strong on a broad front or cannot be avoided, a narrow frontage and a formation in depth are desirable.

e. When adequate support is provided by artillery and tactical air, the frontage may be greater than when such support is lacking and the battalion furnishes the bulk of its own fire support.

311. ZONES OF ATTACK

a. Zones are assigned when maximum control of the battalion's action is desired, when it is necessary that the area be cleared, or when zones are needed within a higher command to coordinate supporting fires of the artillery. The higher commander may also assign zones when the area for maneuver is restricted, as in the case of an interior battalion. In all cases, however, it is desirable that the zone be wide enough for at least a two-company front over terrain that is suitable for tank-armored infantry teams. When assigned a zone, the battalion cannot maneuver into another zone, or call for fires in another zone, without clearance through higher headquarters.

b. Within the battalion, zones of action are assigned to each team if the battalion is attacking with teams abreast. Boundaries are seldom designated between companies. Normally, only zones of action or axes of advance are designated. Often assignment of objectives to the assaulting teams is sufficient to designate their zones.

312. AXIS OF ATTACK

The reinforced armored infantry battalion commander, when assigned an axis, selects the frontage

along which he will attack. The axis indicates the direction of attack but allows the commander to deviate to either side in order to accomplish his mission. Aerial observation and direct-support artillery groups within a higher command that has two or more direct-support artillery battalions, greatly reduce the need for boundaries. An attack along an axis allows greater freedom of maneuver; therefore, this method of controlling the attack is preferred. Even in cases where the enemy's front is continuous, he usually establishes strong points on terrain features; therefore, his flanks almost always are exposed, in some degree, to the attacker. If assigned an axis, the battalion commander can better take advantage of such situations. Even though an axis of attack is assigned, the formation adopted should not overextend the battalion.

Section II. PREPARATION FOR THE ATTACK

313. GENERAL

The commander of the reinforced armored infantry battalion receives his mission from a higher commander, who also specifies the composition of the battalion. The battalion commander then briefs the attached units, coordinates them with the organic units, and plans his attack. Whenever possible, he makes a thorough personal reconnaissance and an estimate of the situation. See paragraphs 37–39. In completing his plan of attack, he covers supporting fires by both the artillery and the battalion support weapons and the use of smoke. He then issues the order to the key personnel of the battalion. He

often takes two or more of these steps concurrently, and uses members of his staff to work out many of the details.

314. ELEMENTS OF THE PLAN OF ATTACK, GENERAL

Upon receipt of the plan of attack, or attack order, from higher headquarters, the battalion commander begins to formulate his plan of attack. The plan of attack includes the *plan of maneuver* and *plan of supporting fire.* Provision is made for adequate reserves consistent with the tactical situation (fig. 53).

315. ELEMENTS IN THE PLAN OF MANEUVER (FIG. 54)

The plan of maneuver includes—

a. Task Organization. Reinforced companies are formed based upon troops available, the mission, the enemy situation, the terrain, and the general plan of attack.

b. Objectives.

c. Formation.

d. Choice of Element to Lead the Attack.

e. Direction of Attack. The assigned battalion objectives determine the direction of attack. In areas covered by heavy undergrowth, or wide, flat plains without suitable landmarks, an azimuth of attack may be given. If a change of direction becomes necessary, it is based on a prominent terrain feature (fig. 55).

f. Zones.

g. Line of Departure.

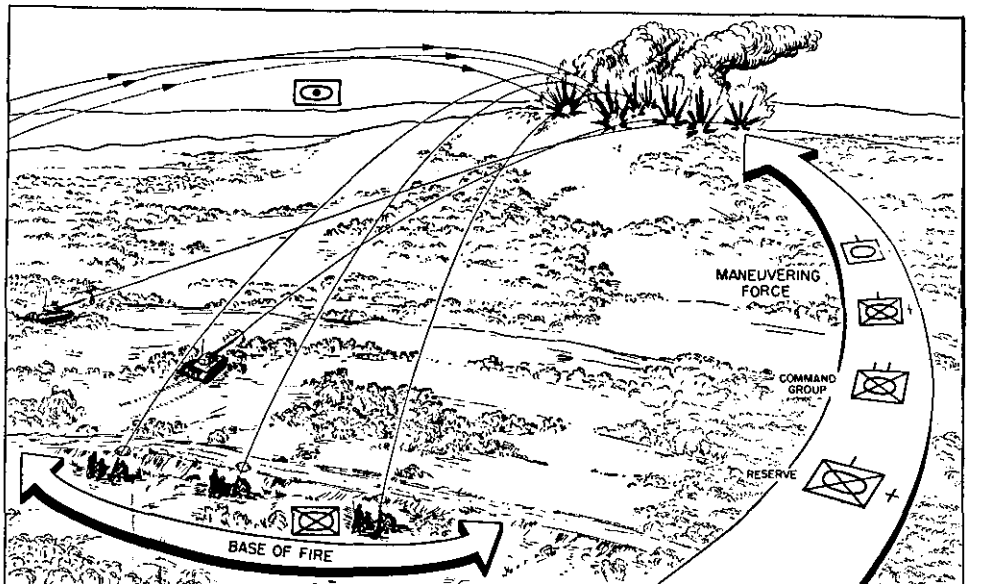


Figure 53. In the conduct of the attack the battalion is normally divided into a maneuvering force (assault echelon), a base of fire, and a reserve.

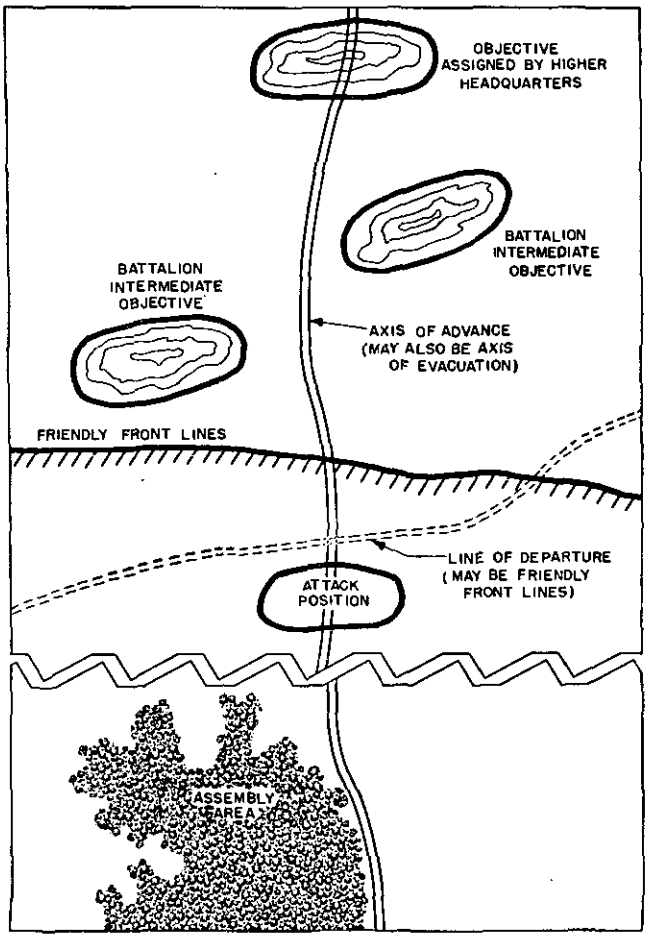


Figure 54. Planning the attack.

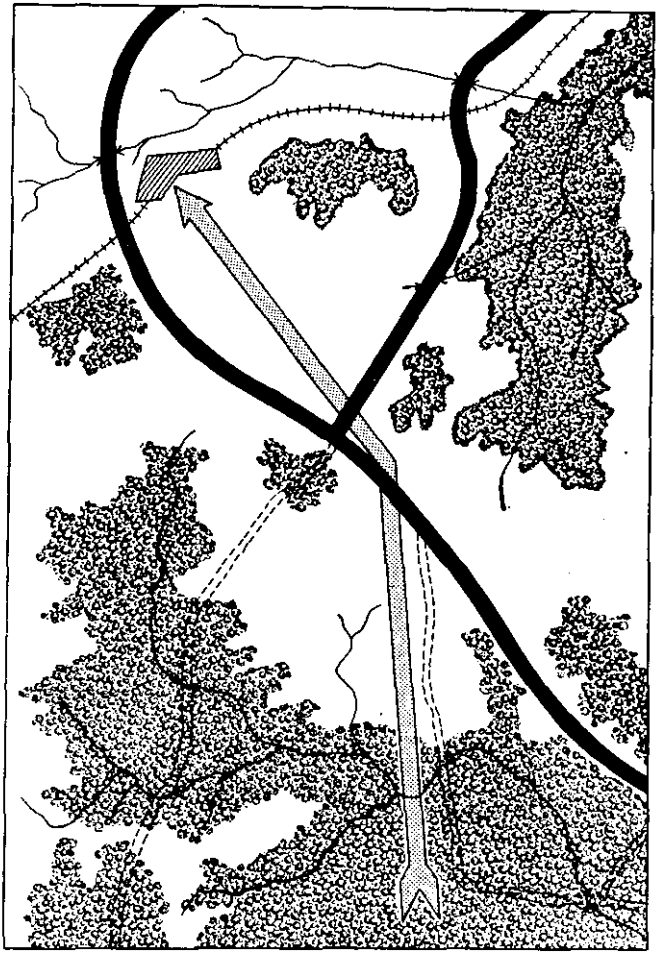


Figure 55. Plan of attack. A change of direction is based on a well-defined terrain feature.

h. Time of Attack. The time of attack is usually prescribed by the combat command commander. It may be announced as a definite hour, or be on a prescribed signal, or be immediately after a specified tactical action. It is the responsibility of the commander to recognize the amount of time necessary for lower echelons to prepare for the coordinated attack.

i. Reserve.

j. Assembly Area.

k. Attack Position.

316. COORDINATION IN THE ASSEMBLY AREA

To obtain complete coordination of action between the organic and attached or supporting elements of the reinforced armored infantry battalion, early and detailed plans must be prepared for the attack. Commanders and staffs must understand the tasks of all units and the integrated operation of the battalion as a whole; conferences for the commanders and staffs should be held to insure this understanding. So far as possible, troops must be instructed in the parts they will play in the operation.

a. Liaison. Immediately upon attachment to a battalion, a unit must establish liaison with the battalion headquarters. Depending on the size of the unit, this liaison may be performed by an officer, a noncommissioned officer, or a messenger.

b. Communication. Immediately upon attachment of units, the battalion communication officer must see that they have the correct channels set on their radios and that they receive the current SOI; he must be ready to give them any communication assistance they may need.

c. Status of Personnel and Vehicles in Attached Units. The battalion commander and staff must be as familiar with the status of vehicles and personnel in attached units as in organic units of the battalion. Only when he knows the effective strength of personnel and the amount and condition of equipment in all units can the commander assign appropriate missions. For example, an attached tank company at half strength cannot be expected to accomplish a mission in the same amount of time, or as effectively, as a full-strength tank company

d. Orientation of Newly Attached Units. Troops newly attached to the battalion are not likely to be familiar with its immediate situation and mission. The battalion commander and his staff must orient these troops, giving them all available information. This is especially important when the newly attached troops come to the battalion from a reserve status.

e. Reconnaissance and Final Preparations. Final preparations and reconnaissance for the attack are made while the battalion is in the assembly area. As soon as the area is occupied, the battalion commander and his staff establish liaison with friendly units in the vicinity to learn from them the enemy dispositions and type of resistance being encountered. Reconnaissance to select the attack position is started and arrangements are made for the movement to the attack position. Routes for both day and night moves are selected; those chosen for day movement need concealment from enemy observation; those chosen for night movement must be easy to follow.

317. RECONNAISSANCE BEFORE THE ATTACK

a. Personal Reconnaissance. Before the attack, great effort is made to gather information about the enemy and terrain. Personal ground reconnaissance by the commander is the most effective way to gather this information. If a liaison airplane is available, the commander or a member of his staff may make an aerial reconnaissance of the area. Reports from dismounted patrols and from the battalion reconnaissance platoon supplement the information obtained by personal reconnaissance. Additional information may be obtained from combat or army aviation pilots and through liaison with adjacent or holding units (fig. 56).

b. Map Reconnaissance. Even though the commander makes a ground reconnaissance, he always makes a detailed study of the available maps and photos. This is particularly important if the ground reconnaissance has been hurried or limited. A thorough map study will reveal strong and weak points of the terrain and possible enemy dispositions, and will suggest how the attacking force must be organized to accomplish its mission.

c. Routes, Assembly Areas, and Attack Positions. Reconnaissance of routes, assembly areas, and attack positions is a must at all times. This reconnaissance is as thorough as possible, but the time allotted to it will vary greatly. This activity is not limited to the reconnaissance platoon alone, but is engaged in by senior staff officers who either accompany the platoon or make the reconnaissance themselves.

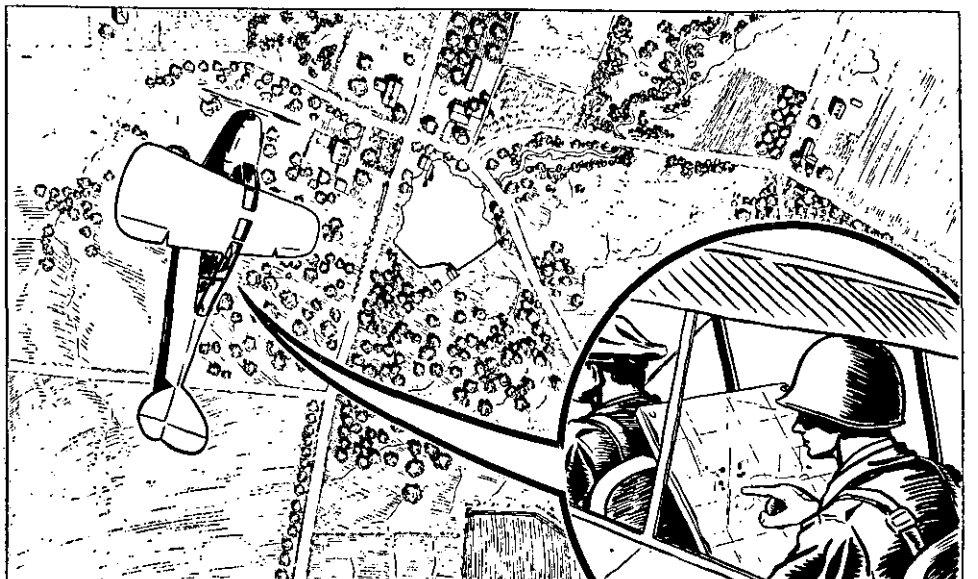


Figure 56. Whenever time and availability of aircraft permit, the battalion commander should use a liaison plane to supplement his map and ground reconnaissance.

318. COMPLETION OF THE PLAN OF ATTACK

After the battalion commander has made his reconnaissance, completed his estimate, and arrived at a decision, he completes his plan of attack. This plan is simply a detailed translation of the fifth step of the estimate—the commander's decision. The details are worked out by members of the commander's staff. Lower unit commanders are kept informed of their parts in the plan, so that they have time to complete their reconnaissance and to plan the details of their actions.

319. PREPARATION FOR SUPPORTING FIRES IN THE ATTACK

A well-coordinated fire plan includes the fires of artillery, tactical air when available, battalion supporting weapons, weapons of attached chemical units, and tanks when needed. Details of the plan are agreed upon in preliminary conferences. Supporting fires move with the advance, lifting or shifting at the last possible moment to allow the assault elements to close with the enemy, but moving soon enough to avoid hitting the assault elements. Any schedule of supporting fire is made flexible to allow shifting or stopping of fires on signals. The fire plan includes preparatory fires, supporting fires during the attack, and supporting fires after the objective has been taken. All possible enemy positions located before the attack are engaged by prearranged fires, and are destroyed or neutralized.

320. ARTILLERY SUPPORT DURING THE ATTACK

a. The main supporting fire of the reinforced armored infantry battalion comes from supporting artillery. Artillery fire-support plans are normally coordinated with the attack plan as a whole by conferences between the reinforced armored infantry battalion commander and the artillery commander, or between staff officers of the two units. The plan of attack is considered and a fire plan is drawn up to support the attack. The artillery battalion commander provides liaison between the reinforced armored infantry battalion and the supporting artillery, and can obtain additional support from division or corps artillery. The artillery liaison officer remains with the reinforced armored infantry battalion. In the absence of the artillery battalion commander, he obtains additional supporting fires. The artillery battalion liaison officer normally has his own facilities for communication with his battalion. He supervises the assignment and operation of forward observers, one usually being assigned to work with each reinforced company. Besides these artillery forward observers, all officers of tank and armored infantry battalions are trained in adjusting artillery fire.

b. The following types of support may be expected from the artillery:

(1) *Support during movement to the assembly area.* Counterbattery fire against hostile artillery is the main support given during this period.

(2) *Support during movement to the attack position.* Although counterbattery fire is

still of main importance, neutralization fires on forward antitank weapons and support fires for mine removal parties are provided.

(3) *Support during attack.* All available artillery fire is used in heavy concentrations to protect the assault echelon. During the attack, fire is adjusted on enemy observation posts, artillery, targets of opportunity, and, in general, areas of resistance. The artillery hits at any hostile troops or weapons holding back the attack.

(4) *Support during reorganization.* Artillery helps protect reorganizing forces by massing fires on threatening hostile elements, by counterbattery fire, and by interdiction.

(5) *Support against counterattack.* Observed fire is massed in sufficient volume to break up counterattack from any direction, especially enemy thrusts from the flanks. Prearranged interdictory fires may be placed on routes of approach (fig. 57).

c. Artillery fires should not cover critical points and targets alone, but also those areas that supporting weapons cannot reach or cover adequately.

321. TANK SUPPORT DURING THE ATTACK

If all the tanks attached to the battalion are not used in the maneuvering force, some tanks may give direct-fire support from hull-defilade positions. Under exceptional conditions, tanks may use indirect fire to support the attack; however, this is abnormal because of the flat trajectory, high muzzle velocity, and small bursting radius of tank projectiles, and

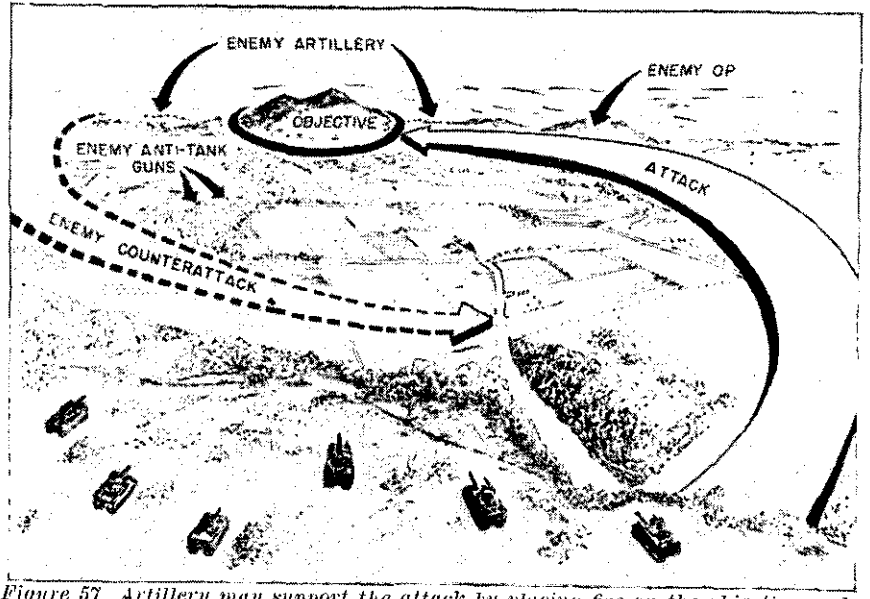


Figure 57. Artillery may support the attack by placing fire on the objective and on enemy observation posts; by engaging enemy artillery and antitank guns; and by disrupting enemy counterattacks.

the excessive wear on the tube. When such a mission is assigned to tanks, special provisions are made for maintaining the basic ammunition load.

322. AIR SUPPORT DURING THE ATTACK

Tactical air support may be available to the division or the combat command; if so, it is controlled through the tactical air control party (TACP). The forward air controller remains with the command group until a target is designated; he then moves to a point where he can properly observe and direct the air attack on the designated target. Close liaison is kept between the forward air controller and artillery liaison officers to insure prompt exchange of information gained from both ground and air observation and to assist in rapid engagement of targets of opportunity. Fighter planes normally support the attack by bombs, rockets, and incendiary missiles, and by strafing. Suitable targets for supporting fighters are enemy armor, enemy columns, targets beyond range of medium artillery, enemy strong points, and enemy communication centers (fig. 58 and FM 31–35).

323. USE OF BATTALION MORTAR PLATOON DURING ATTACK

a The mortar platoon supports the attack by fire on those targets that cannot be engaged by flat trajectory weapons, and by the use of screening smoke. Mortars deliver close supporting fires throughout the attack to—

(1) Assist the advance of the assault echelon (maneuvering force).

Figure 58. The forward air controller places himself where he can effectively direct the air support.

(2) Assist in holding the ground gained.
(3) Prevent the enemy from shifting or disengaging his forces.

b. Mortar fires in the attack are coordinated with the other supporting fires. This is done during the preparation of the fire plan for the attack (fig. 59).

324. USE OF SMOKE IN ATTACK

a. Missions. Artillery, mortars, tanks, and attached chemical mortars fire smoke missions. Smoke is used to—

(1) Blind enemy tanks and antitank guns.
(2) Disorganize enemy counterattacks.
(3) Indicate targets and mark front lines for supporting aircraft.
(4) Blind hostile observation (fig. 60).
(5) Screen mine-sweeping operations.
(6) Screen movements of tanks and infantry.
(7) Screen a withdrawal from action.
(8) Screen reorganization.
(9) Screen friendly disabled tanks so the crews can escape.
(10) Isolate enemy areas from their supporting fires.
(11) Separate counterattacking enemy elements from their supporting fires.

b. Application. Smoke, skillfully used, assists attacking tanks and armored infantry; indiscriminate and ill-planned use of smoke hinders the attack. The probable effect of smoke is carefully estimated. Smoke used to hamper the enemy may interfere with the operations of the battalion and adjacent units. The plan of maneuver, the direction and velocity of

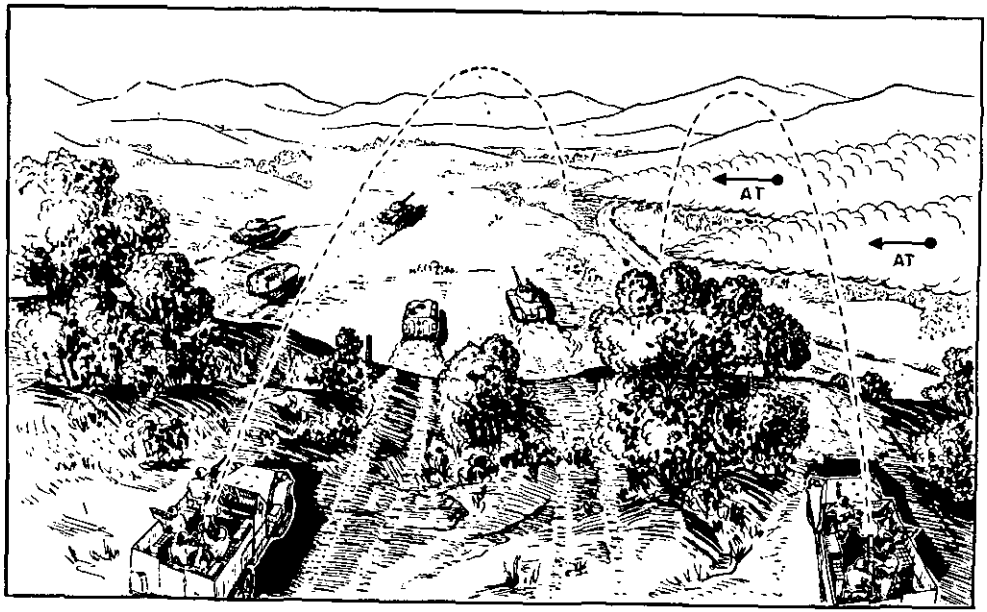


Figure 59. Mortar support during attack.

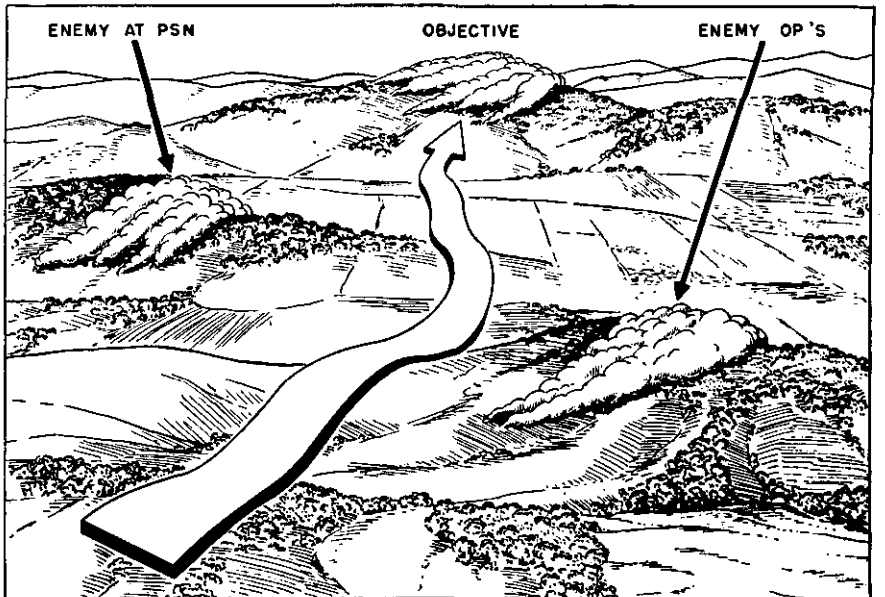


Figure 60. In the attack, smoke may be used to blind enemy observation posts and enemy troops on the objective.

the wind, atmospheric conditions, and the types and amount of smoke-producing agents available are factors to be considered.

325. OBJECTIVES

a. Objectives assigned to the reinforced armored infantry battalion may be classified generally as close or distant. These objectives may be terrain features or hostile tactical dispositions. A *close objective* is normally assigned when the terrain or disposition of hostile forces indicates long, hard fighting. The attack on such an objective can normally be supported without displacing any direct-fire weapons. The assault unit capturing such an objective normally needs time to reorganize before it can continue the advance. The impetus of the attack can be kept up, however, if another unit continues the attack while the one that has just captured the close objective reorganizes.

b. Distant objectives are assigned when the situation favors rapid advance. Battalion or combat command usually assigns intermediate objectives short of the final distant objective. Intermediate objectives assist control, protect routes of advance, or provide advanced firing positions for supporting weapons and elements attacking by fire. Their occupation may make flanking action possible or make nearby portions of the enemy position untenable. The seizure of an intermediate objective does not slow the impetus of the attack but results in increased pressure on the enemy. Reorganization on intermediate objectives is executed rapidly, and the attack is continued without delay.

c. Favorable and unfavorable characteristics are considered in the *selection* of an objective. A desirable objective should—

(1) Be easily recognized on the ground.
(2) Aid in the accomplishment of the battalion mission and probable future action.
(3) Provide good observation and suitable terrain for fire support of a further advance.
(4) Be within effective range of supporting weapons located on or behind the line of departure or the preceding objective.
(5) Be visible from the line of departure or previous objective.
(6) Produce a convergence of effort.
(7) Be capable of capture within time and space limits imposed by the mission.
(8) Be consistent with the capabilities of the units to which the objective is assigned.

326. FORMATIONS FOR ATTACK, GENERAL

The formation for the battalion is based on the troops available, the terrain, the enemy situation, and the mission. The choice of an attack formation depends on the size needed in the assaulting force and the depth needed to maintain the momentum of attack.

a. Troops Available. The battalion commander considers the organization of his reinforced battalion and the availability of supporting fires. If the supporting weapons provide a large enough base of fire, he may commit his entire battalion in the assault. If not, he normally assigns part of his tanks and

armored infantry the mission of thickening the base of fire.

b. Terrain. Woods, impassable ground, or insufficient maneuver room make it necessary to narrow the formation, while open ground with room to maneuver makes an extended formation necessary. The terrain may also determine whether tanks or infantry should lead.

c. Enemy Situation. A deep formation is necessary for a continuous attack against a strong enemy. Against a vague enemy situation, a similar formation may be desirable. Against an enemy known to have strong antitank defenses, however, an extended formation may be used with the tanks seeking to envelop such defenses.

d. Mission. A battalion with a mission to cover or make a reconnaissance in force generally assumes a wide formation. When attacking a limited objective, strongly held, a wide formation is indicated. The battalion acting as the maneuvering force for the combat command probably advances in depth. If assigned an objective deep in the enemy's rear, it attacks in a deep formation.

327. ATTACK FORMATIONS

a. Types.

(1) *Column.* This formation gives maximum control and driving power, for from it the battalion may deploy quickly to either flank. This formation is useful in passing through woods and defiles, it may be used in a penetration when a deep attack is neces-

sary, and it may be the initial formation for a battalion with an enveloping mission.

(2) *Echelon.* The battalion may be echeloned to the right or left. The echelon offers excellent fire power to the front and to the echeloned flank, and fair fire power to the other flank. It allows sustained effort, but is difficult to control without good visual contact. It is used to cover an exposed flank.

(3) *Line.* The battalion in line may have two or more companies abreast. Depending on how many companies are in line, this formation gives little depth and, as a result, low sustaining power. The line formation is used to develop maximum frontal fire when maneuver and depth are not of paramount importance. Because of the variable composition of a reinforced battalion, the number of companies in line and in reserve in this formation varies; however, every effort is made to insure continuity of the attack.

b. Application.

(1) *Penetration.* When a mission to penetrate a hostile organized position is assigned, the battalion commander adopts a formation that delivers the greatest concentration of effort at the desired point of break-through. The battalion is ordinarily assigned a narrow zone for a penetration and it is arranged in depth to maintain the momentum of the attack. The formation may be a

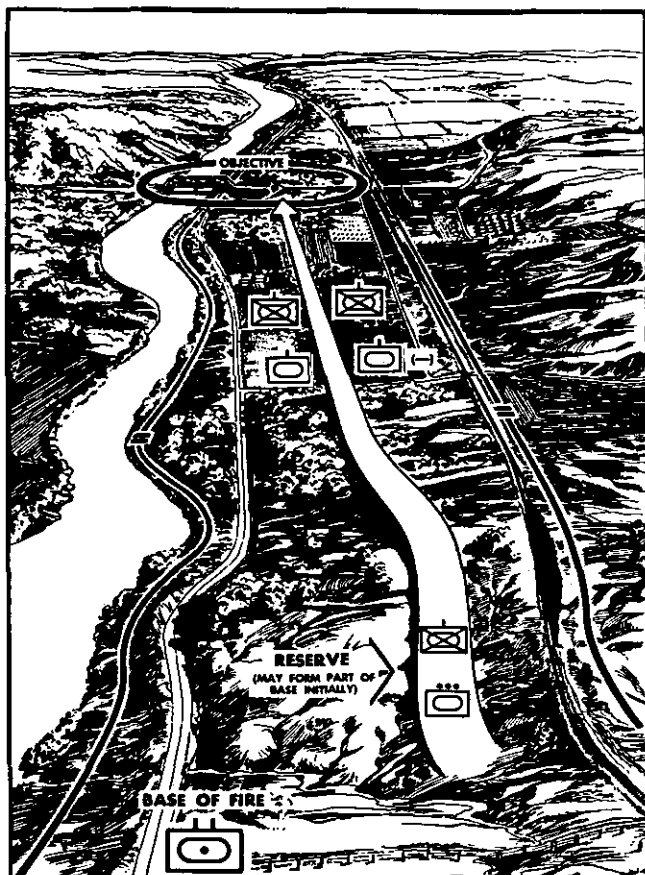


Figure 61. Formation for armored infantry battalion in penetration on a narrow front.

column of reinforced companies or two reinforced companies abreast (fig. 61).

(2) *Attack through obstacles or mine fields.* A reinforced armored infantry battalion often attacks to breach antitank obstacles and mine fields and so allow reinforced tank battalions of the combat command to pass. When given such a mission, the battalion commander adopts a formation that provides—

(*a*) Armored infantry rifle elements in the assault to gain a bridgehead over the obstacle or mine field.

(*b*) Armored engineers located to gap or span the obstacle or mine field in the wake of the assaulting rifle elements.

(*c*) Tanks in position to support the assaulting rifle elements by fire during the bridgehead operation.

(*d*) A powerful tank-armored infantry team in reserve, ready to pass through any gaps opened and to assault the objective (fig. 62).

328. OTHER FACTORS AFFECTING FORMATIONS

a. Plan of Attack. If the battalion is the maneuvering force for the combat command, it normally attacks on a narrow front. If the enemy is not pinned down or if the combat command's base of fire cannot adequately support the assault, the battalion formation includes a base of fire. In any case, the battalion uses mortars and similar supporting weap-

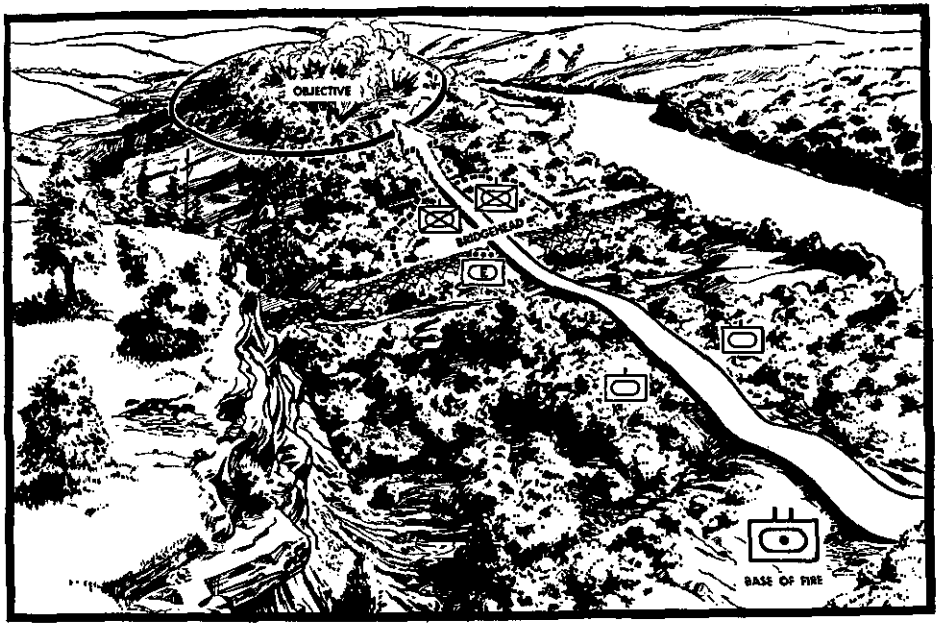


Figure 62. Reinforced armored infantry battalion in attack through a mine field.

ons to establish the base of fire. If the higher commander has a reserve available, the battalion need not provide a reserve.

b. Enemy Situation. Against a strong enemy, a formation in depth is necessary to maintain a continuous attack. In some cases, the enemy situation also determines whether tanks or armored infantry lead.

c. Control. The degree of control that the battalion commander can retain is usually proportional to the depth of the formation. Conversely, the amount of control that must be decentralized to company commanders is proportional to the width of the formation.

d. Security. Depth in the formation gives added security, because it enables the uncommitted units to maneuver. A deep formation also enables the commander to counter an enemy threat from either flank. Security on a threatened flank may also be obtained by a formation echeloned to that flank. Troops in the base of fire provide security for the assault force (fig. 63).

329. ATTACK ORDERS

A commander's attack order is a concise statement of his plan of attack. He issues it in time for lower units to reconnoiter and to prepare plans and orders. The battalion commander's order is usually oral, and warning and fragmentary orders are used freely, particularly during the reorganization and continuation of the attack (app. VI).

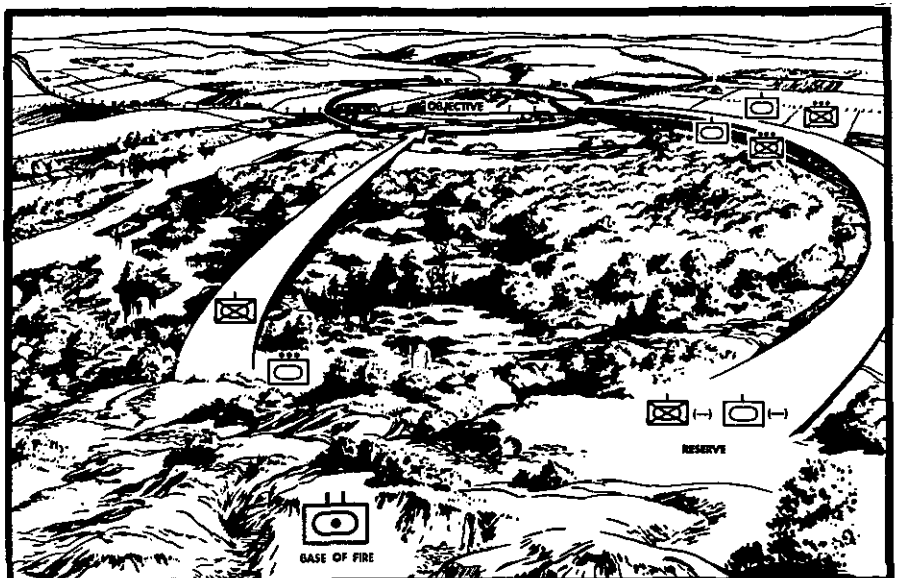


Figure 63. Effect of terrain on formations. Unfavorable terrain for tanks in part of the zone permits a direct attack by an infantry-heavy team while tank-heavy teams maneuver to a flank.

330. MOVEMENT TO ATTACK POSITION

The movement from the assembly area to the attack position is made as a tactical march, normally during darkness. Tank-armored infantry teams and supporting elements are arranged in the column so they reach their attack positions without having to counter-march or move through an area occupied by another element. Markers are posted along the route and at the entrance or entrances to the attack position.

Section III. CONDUCT OF THE ATTACK

331. GENERAL

During an attack the battalion commander goes where he can best observe and influence the action, usually in rear of the assault companies. By personal orders, or through his staff, he directs the companies. As the attack develops he goes well forward to observe its progress and to shift supporting fires. Only by being where he can see what is taking place can he make rapid decisions and take advantage of enemy errors.

332. CONTROL

Control is essential to coordinated and effective action. The armored infantry battalion commander controls his battalion in the attack through communication and liaison, by designating successive objectives and phase lines, and by his personal position on the battlefield. During the attack he depends primarily on radio communication to control the move-

ment of the companies. In a rapid advance, phase lines are used for coordination. Elements do not halt on phase lines unless so ordered, but report their positions and continue to advance, for any restrictions on movement may give the enemy time to react and may result in loss of the initiative. Staff officers in the command group physically assist in controlling the assault elements (fig. 64).

333. RECONNAISSANCE

a. Battle reconnaissance is made by all elements of the command. All commanders are alert for information about—

(1) Location of antitank weapons, mines, and obstacles.
(2) Changes in location of friendly troops.
(3) Progress of the attack.
(4) Avenues of approach to the objective.
(5) Changes in enemy dispositions.
(6) Arrival of enemy reinforcements.
(7) Enemy air and tank attacks.
(8) Probable direction of enemy counterattacks.

b. Light aircraft help the battalion commander secure battle information. The air observer can report the progress of the attack, hostile reactions to the attack, location of obstacles and antitank weapons, and indications of hostile tank counterattacks. He is particularly alert for hostile counterattacks during reorganization. By monitoring the liaison airplane radio channel the commander immediately gets all available information.

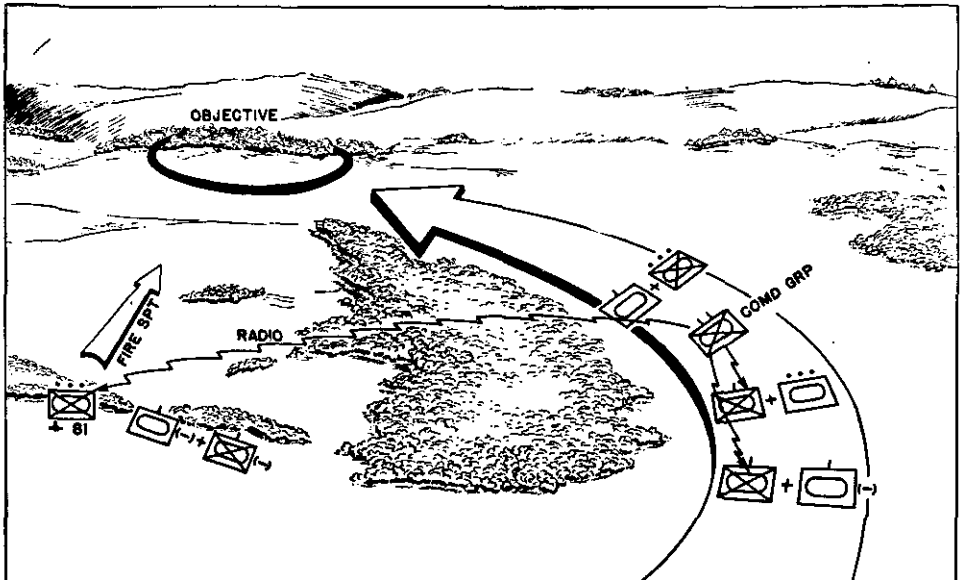


Figure 64. The battalion commander personally supervises the maneuvering force, using radio to control and maneuver his units.

334. CONDUCT OF THE BASE OF FIRE

a. When using *tank and armored infantry* units to supplement the base of fire, the battalion commander makes sure that they are ready to displace forward as soon as the maneuvering force masks their fires. Tanks and armored infantry in the base of fire usually provide direct tank-cannon and machine-gun fire support. The tank-armored infantry team forming the base of fire watches the flanks of the maneuvering force carefully and intercepts, by fire or maneuver or both, any threats that may develop there. It may also be used by the battalion commander to meet unforeseen contingencies or to exploit success.

b. The *mortars* are used in the base of fire. They are prepared to displace forward immediately to new positions as soon as their fires are masked by the assault echelon. Displacement is coordinated to provide continuous fire support.

c. Extra *ammunition* for tanks and mortars in the base of fire is provided to conserve the basic load carried in the vehicles.

335. CONDUCT OF THE MANEUVERING FORCE

The maneuvering force closes with the enemy in the shortest possible time. From the moment the assault elements cross the line of departure until they close on the objective, movement is continuous and fast to decrease losses from enemy fire. Tank and carrier machine-gun fire is massed on the enemy as soon as the teams arrive within effective range. The

action of the assault forces is characterized by speed and shock action (fig. 65).

336. USE OF BATTALION RESERVE

The reserve is an offensive weapon. It is one of the means of keeping the initiative, mainly through using it to exploit successes. In a reinforced armored infantry battalion, any uncommitted part of the command, including tanks and armored infantry used in the base of fire, is a reserve. The reserve may be used to reinforce the base of fire, or may follow the assaulting echelons of the maneuvering force. As soon as the assault forces reach the objective, the reserve or uncommitted part of the battalion, closes on the position to assist in organizing it and in repelling counterattacks.

337. PASSAGE OF LINES

A passage of lines requires the closest cooperation and coordination, and success can be achieved only by proper liaison between the unit in position and the unit passing through. This liaison should be command liaison; that is, liaison between commanders at all levels. In such an attack the reinforced armored infantry battalion commander establishes and maintains liaison with the commanders of the units through which he will attack. If time and the situation permit, the reinforced armored infantry company commanders also establish liaison with the corresponding company commanders of the other units. Through command liaison the armored infantry commanders determine—

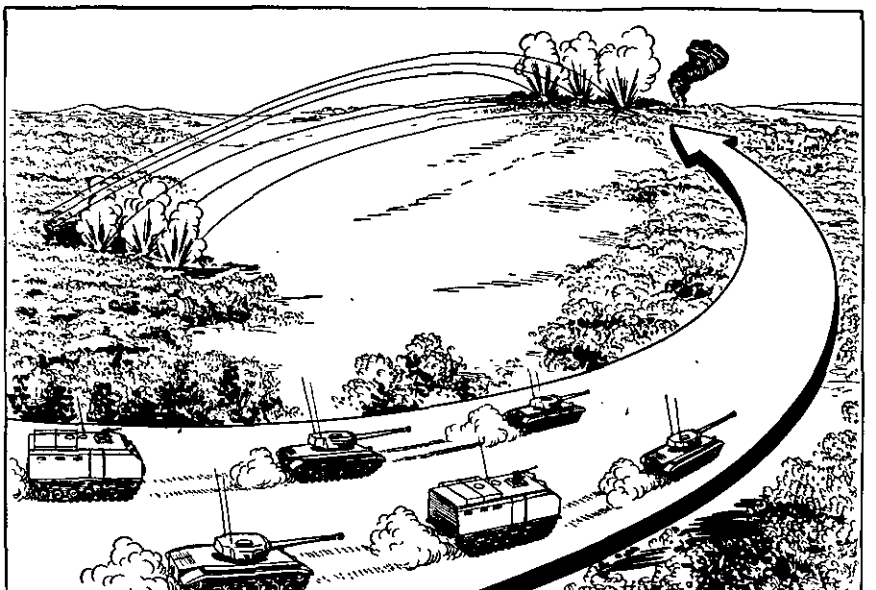


Figure 65. The maneuvering force closes with the enemy as fast as possible.

a. Selection of the Attack Position. The attack position must be as far forward as possible. Coordination between all commanders insures the selection of the best position.

b. Route Priority. The commander of the unit in position is told which routes the reinforced armored infantry battalion will use and the approximate time it will be using them. This is increasingly important when the roads are narrow and two-way traffic of heavy vehicles is difficult or impossible.

c. Enemy Information. The front-line unit can provide detailed, first-hand, and up-to-date information of the enemy. Information of particular importance to the reinforced armored infantry battalion commander is that concerning the type of enemy resistance and the number of enemy troops, obstacles, and antitank weapons.

d. Friendly Information. From the front-line unit, the reinforced armored infantry battalion commander can obtain first-hand information of friendly dispositions. He confirms this information, whenever possible, by a reconnaissance made either by himself, his staff, or elements of his reconnaissance platoon.

e. Passage of Lines. Each reinforced tank and armored infantry rifle company commander contacts the troops in his part of the zone and arranges for these troops to indicate their positions so that they will not be endangered by the tanks and carriers. Guides are posted as necessary. Special signals may be needed to indicate when the last armored element has passed. Care must be taken to prevent damage to telephone lines.

f. Removal of Obstacles. The time of attack of the armored infantry unit may depend on the removal or breaching of such obstacles as antitank ditches or mine fields. When this is so, the armored commander keeps contact with the commander in position and keeps informed on the progress of the work. This is very important because the armor must be ready to cross the obstacle as soon as it has been breached; at the same time, the armor must not prematurely disclose its intentions to the enemy.

g. Additional Artillery Support. When armor is attacking through friendly infantry divisions, additional artillery support will often be made available by the infantry division artillery. This support is normally arranged for by the armored division artillery commander and his staff. To obtain additional support from the infantry division artillery, the reinforced armored infantry battalion commander submits requests only to his direct-support artillery battalion commander or liaison officer.

338. ASSAULT

The assault is the actual closing with the enemy by a leading element of an attacking force. All available supporting fires normally cover the advance of the assaulting tank-armored infantry teams from the line of departure until these fires must be lifted to permit the maneuvering force to close onto the objective. To get maximum shock effect from the supporting fires, either the battalion commander or the assaulting tank-armored infantry team commander calls for them to be lifted or shifted at the latest possible time without causing the assaulting (maneuver-

ing) force to halt or slow its advance. Fires may be lifted or shifted by radio, message, or by prearranged signal. In all cases the assault continues to the far edge of the assigned objective.

339. ACTION ON THE OBJECTIVE

a. Security. Following the seizure of the objective, the first action of the battalion is to secure the objective against counterattack. This security must be planned in detail before the attack, but if the action is to progress to a succeeding objective, only local security may be necessary. The reinforced armored infantry battalion commander prepares to meet an immediate reaction by the enemy, especially when penetration or an envelopment appears likely. Because it is hard to reorganize in darkness, security is established quickly if the objective is seized late in the day. An incompletely reorganized force is in no position to repel a night counterattack. The first company to reach the objective covers the likely enemy avenues of approach, and other units reinforce this security as they arrive. The battalion commander, or a member of his staff, coordinates these measures. The mortar platoon is displaced forward to cover the reorganization and support the continuation of the attack. The reconnaissance platoon may be used to secure part of the area, or it may be used for liaison and patrolling. The battalion may find it necessary to place considerable security on its flanks and in the rear; the amount of this security depends on the relative location of other friendly troops.

b. Preparation To Continue the Attack. Advanced planning covers preparation to continue the attack after reaching the objective. After the battalion occupies the objective, the battalion commander chooses formations that assist in the reorganization and in the continuation of the attack. The commander makes a continuing estimate of the situation during the attack; this enables him to issue the necessary instructions for prompt reorganization and immediate continuation of the attack.

c. Reorganization. Reorganization is started immediately after seizure of the objective and concurrently with the establishment of security. During this period the battalion command post and the battalion aid station are displaced forward, and resupply and maintenance elements are moved up. Men are redistributed to fill key vacancies. Casualties are given medical attention and are evacuated if necessary. As much vehicular maintenance is done as possible and those vehicles not repairable are evacuated.

d. Reports. As soon as possible after the objective is seized, each commander reports the condition of his unit to his higher commander. If prior orders do not cover the further employment of the battalion, additional orders are requested.

e. Reconnaissance. While his command is reorganizing, the battalion commander starts reconnaissance for information needed in planning his further action.

f. Command Post. As the attack progresses, the command post moves forward by bounds. As soon

as the objective is occupied, the command post moves to a new centrally located position.

Section IV. RESERVE BATTALION IN ATTACK

340. GENERAL

a. During an attack, the combat command commander may have one or more reinforced battalions in reserve. He prescribes the initial and subsequent assembly areas for the reserve and moves it to where it can best accomplish its mission. The commander of the reserve battalion is responsible for the occupation of the prescribed area, for the establishment of security, and for the activities within the area. The commander of a reserve battalion recommends moving the battalion when he believes it can no longer accomplish its mission from the assigned location.

b. A battalion in reserve may be assigned missions to—

(1) Exploit a success of the assault echelon.
(2) Envelop or outflank resistance that is holding up the assault echelon.
(3) Meet hostile counterattacks.
(4) Protect the flanks of the combat command.
(5) Assist the assault battalions by the fire of its heavy weapons.
(6) Maintain contact with adjacent units.
(7) Protect the rear of the combat command.
(8) Continue the action of the assault echelon when it becomes disorganized, depleted, or exhausted. This may require a passage of lines but is best done by movement to a flank of the unit relieved.

341. MOVEMENT TO ASSEMBLY AREA

On receiving the combat command's order, the battalion commander moves his battalion to the assembly area where, except in emergency, it remains until moved by the combat command commander. The battalion commander makes timely recommendations to the combat command commander for movement to a new assembly area.

342. ACTIONS WHILE IN RESERVE

The commander of a battalion in reserve may be directed to send out patrols and connecting groups to protect the flanks and rear of the combat command and to maintain contact with adjacent units. He usually assigns this mission to the reconnaissance platoon or to elements from one company of the battalion, preferably the company he plans to leave in reserve if the battalion is committed to action. The commander reconnoiters and prepares plans for probable battalion missions. To keep abreast of the situation and combat command plans, he or a member of his staff remains with the command post of the combat command.

Section V. EXPLOITATION AND PURSUIT

343. PURSUIT

a. Pursuit has as its main purpose the capture or destruction of enemy personnel. The pursuing force is therefore compelled to base its movements, to a certain extent, on the actions of the enemy; to close

with the enemy, the pursuing force must advance in the direction of the enemy withdrawal.

b. Pursuit is accomplished by the use of—

(1) A direct-pressure force that exerts constant, heavy pressure on the enemy. This force drives in or envelops the enemy's covering forces and rear guards, making his main body halt and deploy to defend itself. The direct-pressure force then engages the enemy main body to prevent its withdrawal or interference with the operations of the encircling force.

(2) One or more encircling forces that may place themselves across the hostile line of retreat. If possible, these forces advance on roads parallel to the enemy's withdrawal, and block it at defiles and other critical points. If unable to outdistance his leading elements, they strike the enemy from the flank, pinning him against the direct pressure force. The greatest destruction can be achieved when encircling forces strike simultaneously against each flank of the enemy column. These forces guard their own flanks against enemy counterattacks.

344. EXPLOITATION

a. General. An exploiting force operates through a gap or around a flank; it is usually assigned a decisive physical objective deep in the enemy rear such as an enemy capital, a high enemy headquarters, an industrial area, an important bridge, a communi-

cation center, or an airfield. The exploiting force does not concern itself with any actions of the enemy except those that could interfere with accomplishing its mission. Enemy forces are normally bypassed and left for the pursuing forces to capture and destroy.

b. Enemy Situation. When the exploitation stage begins, the local enemy situation is almost certain to be confused and disorganized. Rapid exploitation, before the enemy can bring reserves to bear on the exploiting force or to reestablish his disrupted positions, will cause the enemy to disintegrate further. Enemy resistance consists mainly of delaying actions by small units, defense of scattered strong points, and reliance on obstacles, both defended and undefended. As the attack penetrates deeper into the enemy's positions, his disorganization increases proportionately.

c. Objectives. Objectives in exploitation include—

(1) Hostile reserves and artillery.
(2) Command, communication, and supply installations.
(3) The rear or flank of stubborn positions.
(4) Vital terrain features or critical points such as defiles, road junctions, railroad centers, and bridges.
(5) Link-up with friendly airborne forces.

d. Freedom of Action. After entering the exploitation phase, the reinforced armored infantry battalion commander normally has greater freedom of action than he does in operations against limited objectives and organized positions. Because the need for speed requires instant decisions, the battalion

commander is given wide latitude of action. As a result, he often assumes complete responsibility for actions of major importance, which he bases on his own independent decisions and plans. However, when he must deviate greatly from the original plan, it is extremely important that he immediately notify the appropriate commander (fig. 66).

345. COMPOSITION OF EXPLOITING FORCE

For exploitation, the reinforced armored infantry battalion must be able to mount any type of ground operation on short notice. The battalion must be so organized that the commander can control all elements needed to accomplish his mission. During exploitation it is essential that all elements—tanks, armored infantry, armored engineers, and armored artillery—maintain the same rate of advance. Proper exploitation demands that all troops, equipment, and supplies be transported by vehicles. All elements of the exploiting force must be self-sustaining for short periods (4 to 6 days); to make this possible, they need their own carriers and logistical support.

346. SPEED IN THE EXPLOITATION

a. Speed is essential to successful exploitation. Only through speed and aggressiveness can surprise be gained. When the exploiting force moves rapidly from objective to objective, the enemy can seldom maneuver his troops to interfere seriously with the exploitation. Thorough planning and training usually result in eliminating unnecessary delays and in attaining the speed required.

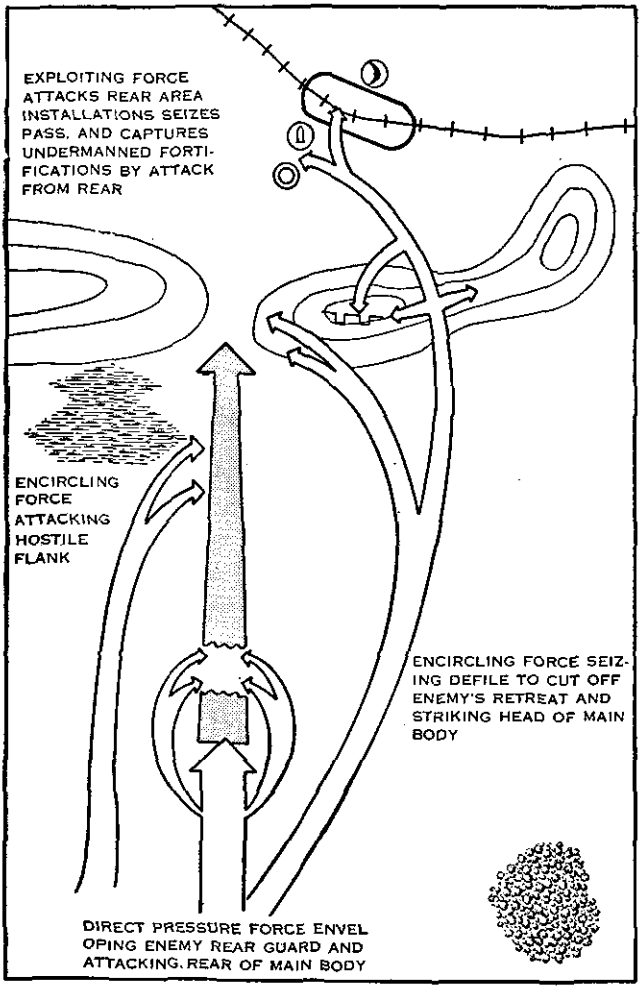


Figure 66. Pursuit and exploitation.

b. Factors which affect the speed of the exploitation include:

(1) *Roads.* The reinforced armored infantry battalion advances in column on roads. Normally the best available roads are used; however, secondary roads may be used to gain surprise and to bypass enemy resistance which often concentrates on the best roads. Cross-country formations are used only when roads are denied by enemy action. Roads are needed for the movement of supplies and for evacuation. Every effort is made to secure bridges intact to avoid loss of time in bridging operations (fig. 67).

(2) *Bypassing.* Isolated defensive areas are normally bypassed for more profitable objectives. However, an enemy force is not bypassed, if it can interfere with accomplishing the mission. The next higher commander decides normally whether the battalion will bypass a strong point.

(3) *Changes in direction of attack.* Frequent changes in direction of the attack increase surprise and thereby add speed to the advance. However, once a battalion commander has been assigned a route to follow, he should not deviate from this route without permission of his next higher commander, except to bypass a physical obstacle. To change routes merely for the sake of change, and not because of enemy action or a physical obstacle, may cause delay (fig. 68).

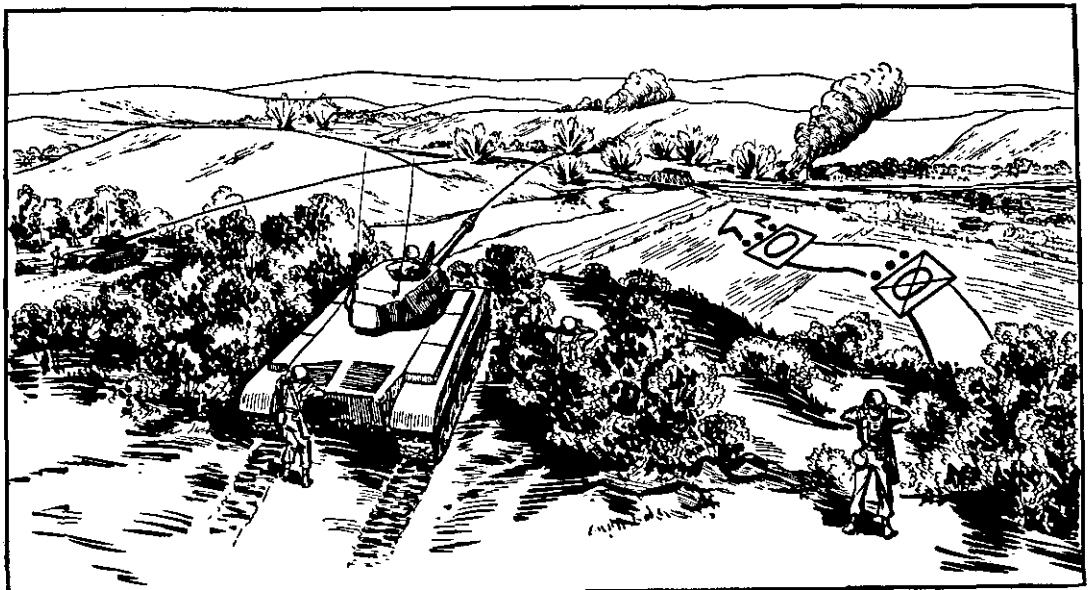


Figure 67. Seizure of bridges intact on exploitation.

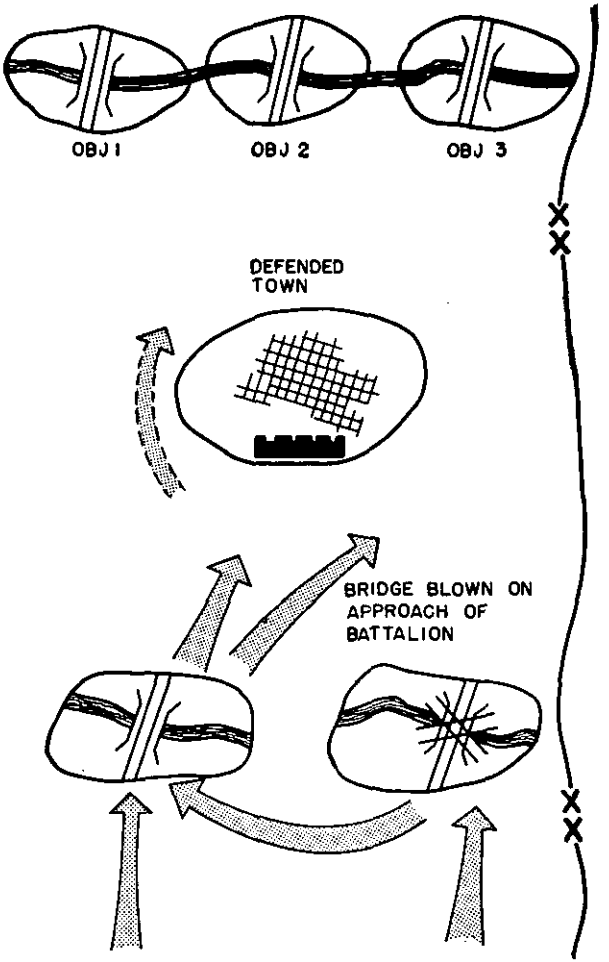


Figure 68. Conduct of exploitation. If an obstacle is encountered, the advance is continued on an alternate route if possible. Areas of resistance may be bypassed by first obtaining the approval of the higher commander.

(4) *Composition and task organization of the battalion.* The armored infantry battalion, adequately reinforced with tanks, armored engineers, and supporting artillery, is organized to permit rapid deployment into attack formations from march column. Elements in the column are grouped so that teams are ready for the type of employment expected.

(5) *Attack of strong points.* The battalion quickly destroys enemy strong points that the leading elements surprise, or that are lightly held. The leading elements of the battalion quickly deploy and close on the strong point. Reconnaissance is limited and may often consist of a brief glance at the enemy position. Orders are quickly sent by voice radio. If surprise is not gained, the whole battalion may have to deploy, although extensive preparations are unnecessary unless the enemy is strong. As soon as preparations are completed, the battalion launches an all-out attack.

(6) *Command.* In successful exploitation, command is characterized by aggressiveness, initiative, boldness, an understanding of tactics, constant alertness, and force. Thorough knowledge of the higher commander's plan assists the battalion commander in carrying out his assigned mission.

(7) *Control.* The column is kept under control at all times so that it can react quickly

and best apply its force. Strict march discipline is a basic requirement. The higher commander may require the battalion to report when it passes phase lines. The battalion normally does not halt at phase lines, but merely reports crossing.

(8) *Halts.* If the battalion is ordered to halt for the night or must halt for resupply, all preparations are made to continue the mission at the earliest starting time. In the exploitation, maximum use is made of daylight.

347. SECURITY IN THE EXPLOITATION

a. General. Each commander is responsible for his own security. The reinforced armored infantry battalion on exploitation is, because of its position deep in enemy territory, particularly vulnerable to enemy attack and harassment.

b. Types of Security Forces. While on the move, the reinforced armored infantry battalion column protects itself by using security forces; by air and ground reconnaissance to the front, flanks, and rear; by liaison with adjacent units; and by the arrangement of the column. Administrative and service elements in the column are protected by placing combat elements close to them. Column security is provided by advance, flank, and rear guards, by covering forces, and by liaison plane reconnaissance.

(1) *Covering force* (par. 55).

(2) *Advance guard.* The duty of the advance guard, normally a reinforced tank company,

is to prevent any unnecessary delay of the main body and to protect it against surprise and ground observation. Reconnaissance to the front and flanks is continuous. The advance guard operates as fast as possible. Its action is aggressive and bold; it is always prepared to take advantage of any surprise achieved. It pushes back or destroys small enemy groups before they can hinder the main body. When it encounters large enemy forces or heavily defended strong points, the advance guard immediately deploys and probes to determine the flanks, strength, and exact positions of the enemy. The advance guard normally serves as the base of fire for the attack of the battalion. The main body follows the advance guard without interval.

(3) *Flank guards.* The reconnaissance platoon and reconnaissance elements from higher command usually provide the necessary flank guard for the reinforced armored infantry battalion on exploitation. Tank and armored infantry units are not normally employed as flank guards. (FM's 17–22 and 17–35.)

(4) *Rear guards* (par. 55).

(5) *Security at the halt.* When the head of the column is halted, the rest of the column continues to move forward, coiling up in available space on each side of the road and near the head of the column. Elements go into prearranged team formations, ready

for instant action in any direction. Local security detachments are posted.

348. ORGANIZATION OF THE EXPLOITING FORCE

The reinforced armored infantry battalion's task organization and order of march correspond to the order of expected employment (fig. 69).

a. The reinforced companies of *tanks and armored infantry* are distributed in depth throughout the column. They lead the attack, maneuver to either flank, and secure the column by their positions. A tank-strong team normally is the leading element in the march column.

b. The *battalion commander* marches well forward in the column to get early first-hand information of the situation. Personal observation speeds up his decisions, plans, and orders. Although the commander is free to travel wherever he desires in the column, the *command group* normally travels behind the leading reinforced company.

c. The *tactical air control party*, when attached, is normally with the command group. From this position, it can quickly move to an observation point in case a target is discovered that should be engaged by tactical air.

d. The *mortar platoon* normally remains under battalion control. It is placed in the column so that it can give immediate fire support to the leading elements. Usually it follows the command group.

e. The direct-support field *artillery* battalion normally remains in column until resistance is met. To support the leading elements of the reinforced

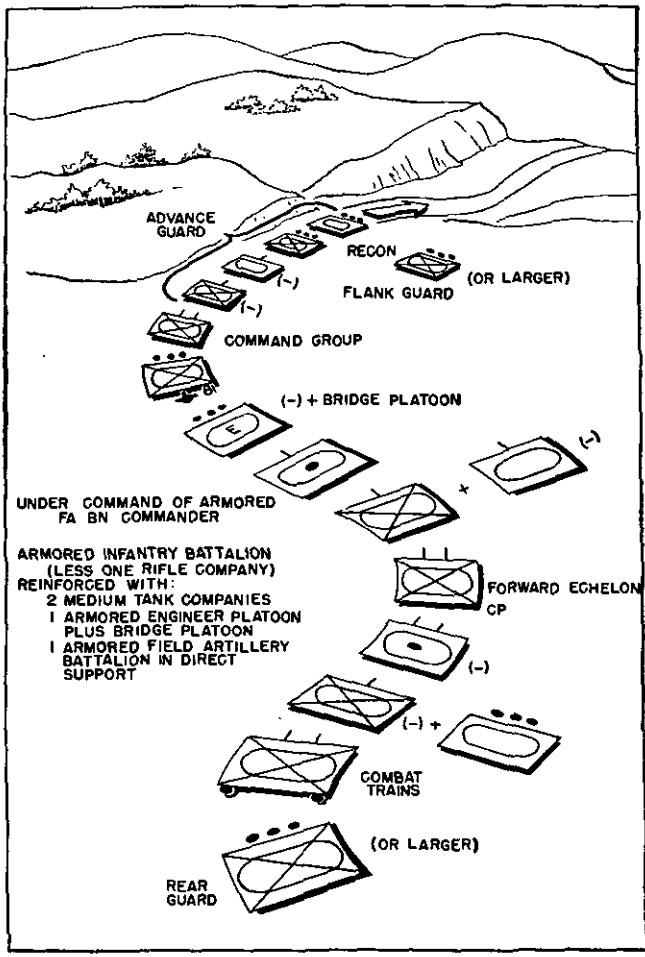


Figure 69. Task organization and order of march of reinforced armored infantry battalion on exploitation.

armored infantry battalion, the artillery must be well forward. The general rule is to place the guns so that they can, if necessary, support the head of the column from a position on or near the road. Either one battery or the entire battalion may be forward to give this support, but in all cases tanks and armored infantry precede. In the exploitation, as in other offensive operations, forward observers are assigned on the basis of one per company.

f. Armored engineer elements attached to the reinforced armored infantry battalion normally operate under battalion control. Since many obstacles are likely to be encountered during exploitation, the engineers are usually well forward in the column, behind the mortar platoon. Villages, wooded areas, streams, and defiles on the route make it particularly important for the engineers to be up front. If a map study shows that bridge equipment may be needed, bridge trucks are located with the engineers.

g. The *forward echelon*, or command post, is located where it can best control operations. For radio communication under unfavorable circumstances or conditions it may be necessary to place radio relay elements near the tail of the column.

h. The *reconnaissance platoon* is normally assigned missions of security, liaison, or column control. If enemy contact has not been gained or has been lost, the reconnaissance platoon, with liaison planes, may be used to gain contact by moving in front or on the flanks of the column. However, when enemy contacts have been frequent but intermittent, and combat against tanks or antitank guns can be expected momentarily, it is not advisable to use the

reconnaissance platoon with its light-armored vehicles in the advance guard.

i. The combat *trains* bring up the rear of the reinforced armored infantry battalion column. They are usually protected by a rear guard, under battalion control.

349. ATTACK FROM MARCH COLUMN, GENERAL

a. In the exploitation, the reinforced armored infantry battalion often attacks from march column without first going into an assembly area. The advance guard company usually covers the deployment (fig. 70).

b. Attacks from march columns are characterized by—

(1) Immediate orders and rapid action.
(2) Issuance of fragmentary orders in a sequence based on the order of their execution and on the time required to execute them.
(3) Use of staff officers to expedite the issuance of orders.
(4) Decentralized control, because of the lack of time for full coordination.
(5) Deployment under the cover of the advance guard company.
(6) Extreme boldness in planning and execution.

c. The following are typical steps in the attack by a reinforced armored infantry battalion from march column:

(1) The advance guard uncovers an enemy strong point that it cannot overwhelm.

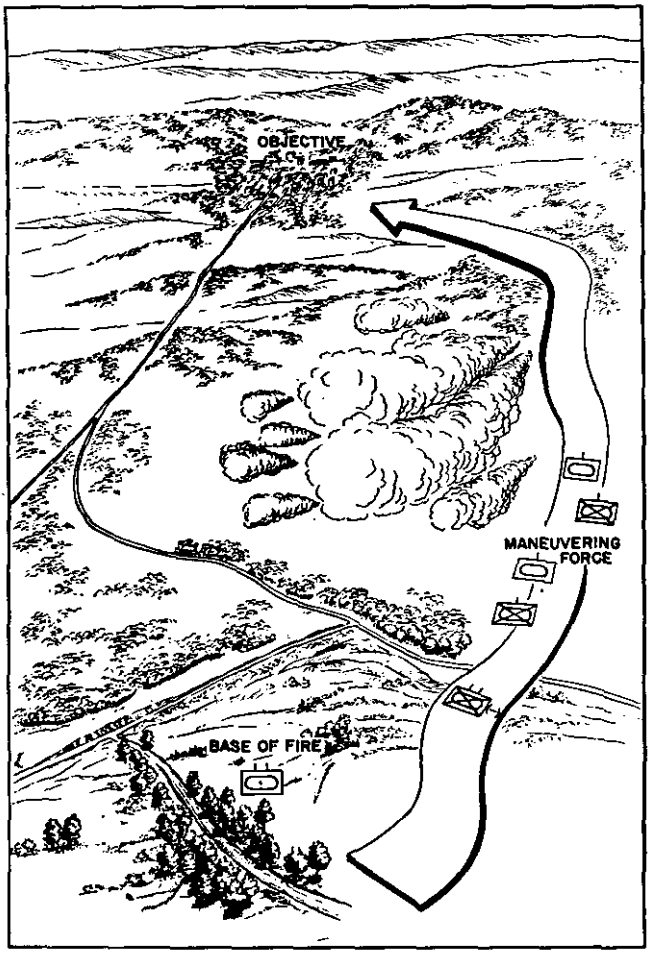


Figure 70. Attack from march column.

(2) The battalion commander reconnoiters and decides to attack.

(3) As soon as he decides to attack, the battalion commander requests the artillery to cover the deployment and the attack.

(4) The commander orders the main body of the battalion to coil up as far forward as possible. During this move, the company commanders may go forward to meet the battalion commander and receive orders, or battalion staff officers may be sent to the companies to issue the battalion order.

(5) The company commanders issue their orders to their platoon leaders and key noncommissioned officers.

(6) The attack is launched, usually on order of battalion commander.

d. Speed in launching the attack is enhanced by—

(1) Having company commanders and supporting-fire unit commanders of the main body ride in their own vehicles immediately behind the battalion commander when contact is imminent. When the attack takes place on favorable ground, the battalion commander can point out the company objectives at once. Company commanders can then lead or direct their companies without delay on the mission assigned over the designated routes. Nothing is lost by this procedure if the attack occurs on less favorable ground.

(2) Against weak delaying forces the battalion commander may wish to launch his main body without delay, under support fire from his advance guard. He may do this by giving each company commander an objective as the entire column moves forward. As the leading company assumes its attack formation, the battalion commander awaits, or goes to, the next commander in the column, and so launches units successively in the attack. The battalion commander may lead the last element himself. Elements may be committed in column, echelon, or wedge formations.

350. ATTACK OF SUCCESSIVE OBJECTIVES

a. In fluid situations, characteristic of both the exploitation and the final stages of the penetration, an effective form of offense is the attack against successive objectives. Such attacks are characterized by the use of elements of the battalion against several objectives—either in rapid succession or at the same time. This method of attack saves time when the entire strength of the battalion is not needed to take each individual objective (fig. 71).

b. Regardless of its task organization, the reinforced armored battalion is always organized into reinforced companies for this type of attack. The strength of companies varies with the estimated enemy strength on the objectives. These companies are assigned objectives and the operation begins with

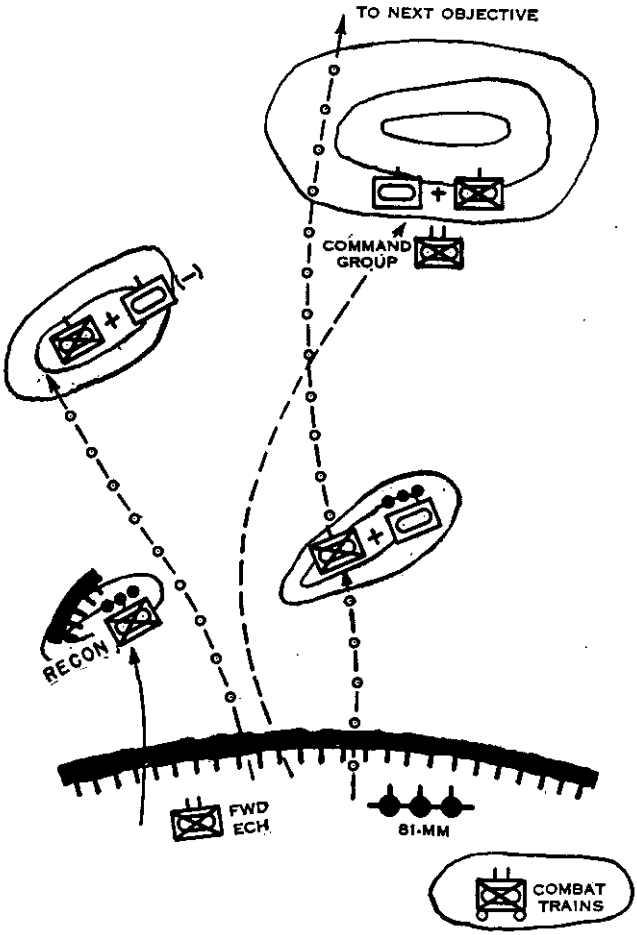


Figure 71. Attack of successive objectives on exploitation.

an attack on the first objective. As soon as it has been seized, or as soon as the battalion commander is certain that the attacking company is strong enough to clear it of enemy troops, he orders the second company to attack the second objective while the mopping-up process on the first is being completed. Similarly, a third company may attack through or around the company on the second objective, to seize a third objective. The attack of each company is supported by the fire of another company. A reinforced armored infantry battalion can often clear a series of villages in a relatively short time by this method of attack.

351. NIGHT DEFENSE DURING EXPLOITATION

As the reinforced armored infantry battalion is subject to attack from any direction when halted at night, a perimeter defense is needed. If the battalion is beyond supporting distance of the higher command, it uses tanks and armored infantry to form an all-around defense. If the battalion is close to other elements of the command, it normally is assigned a sector of the over-all defense; its relative position then dictates the strength and sector of responsibility of its security forces. These measures are taken to meet a surprise attack by the enemy.

a. Outposts of tanks and armored infantry are established on all likely avenues of approach.

b. Supporting weapons and lightly armored vehicles are placed in the center of the perimeter.

c. All supporting weapons are emplaced and registered, and defensive fires are planned.

d. Tank guns and armored infantry machine guns coordinate their fires and cover avenues of approach.

e. Listening posts are established by all elements, with radio and telephone being used for communication.

f. Connecting patrols visit adjacent units and isolated outposts.

g. Service elements carry on their normal missions and are not burdened by security demands.

352. CONTINUATION OF EXPLOITATION DURING THE NIGHT

In order to exploit success to the maximum, the advance is often continued throughout the night. A night advance is conducted similar to a daylight advance. However, security detachments are strengthened, the distance between vehicles is shortened, and the leading tank elements are more heavily reinforced with armored infantry. The rate of advance is usually slower at night, and supporting fires are less effective, but the element of surprise is much enhanced. This type of operation varies greatly from the planned night attack.

353. COOPERATING AIR FORCES

Exploiting forces coordinate closely with friendly aviation. Without adequate recognition measures, the confusion and lack of cohesive fronts inherent in an exploitation could result in clashes between friendly air and ground forces. The air forces assist the exploiting column by—

a. Providing column cover.

b. Bombing and strafing enemy forces on the axis of advance.

c. Observing enemy activity in the zone of action and reporting this information through TACP's to the column commander.

d. Aerial resupply to isolated units or units having extremely long supply lines.

354. AIRBORNE OPERATIONS AND RELIEF COLUMNS

a. Armored divisions are used to drive through overland to link up with airheads established by airborne and air transported units. In such situations exploitation tactics and techniques apply since long advance must be made in short periods of time. Exploiting force tactics also may be used by reinforced armored infantry battalions as part of columns attempting to relieve friendly forces from enemy encirclement.

b. Airborne forces may also assist exploiting forces. They may arrive by parachute or glider to seize key bridges, defiles, and installations vital to continued exploitation by advancing armor. When airborne forces are used in this manner, it is desirable for radio contact to be established as soon as possible between the airborne and armored units. This prevents mistaken identity and clashes between these elements when contact is established. This radio contact may be facilitated by having liaison personnel and radio equipment from the armored units accompany the airborne forces; and airborne liaison personnel, with radios, accompany the armored unit. The commander of the reinforced armored infantry battalion assures that all of his troops are familiar

with the recognition means to be used and the areas in which friendly airborne forces can be expected.

355. EXPLOITATION UNDER ADVERSE TERRAIN AND WEATHER CONDITIONS

It may be necessary for an armored division to be used on breakthrough and exploitation missions in areas unsuitable for armored operations. Virgin forests, widespread swamps, erosion, poor roads or no roads, and bridges not strong enough to bear the weight of heavy equipment restrict the use of armor. Some areas, having a few poor roads or none at all, are favorable for tank employment in dry weather, but become impassable in the rainy season. An armored infantry battalion commander on exploitation in such an area considers—

a. Supply and Evacuation Transport. Full-track vehicles have much better cross-country mobility than wheeled and half-track vehicles, especially under adverse conditions. To assure that combat trains and medical vehicles can keep up with the fighting elements, these units are reequipped with full-track cargo and evacuation vehicles. This may require special training.

b. Self-sufficient Combat Units. The armored infantry battalion carries enough fuel, lubricants, ammunition, rations, and water to enable it to reach its objective. If this is not possible, the higher headquarters carries these supplies and makes them available to the battalion. This often must be supplemented by air-transported supply, either dropped in parachute containers or landed at forward air strips established by the armored division.

c. Exploitation at Night. Surprise may be gained by boldly moving at night deep into the enemy rear area and then completely camouflaging the units before daylight. A series of these bold moves, if undetected by the enemy, puts the exploiting force deep in the enemy's rear before active daylight operations are undertaken. Such actions are feasible in situations where the opposing forces hold extremely wide fronts, especially in wooded and undeveloped areas.

d. Lack of Accurate Maps and Topographical Information. Areas for which accurate maps do not exist, or for which topographical information is not available, offer problems to the movement of armored units. Greater emphasis is placed on ground and aerial reconnaissance. In these areas only recent aerial photomaps and photographs, accurately interpreted, can be used. It is the responsibility of the higher commander to provide accurate maps or map substitutes to the battalion commander. In situations of this kind, maps or map substitutes may be in limited supply and sketches or other improvisations may have to be made by the armored infantry battalion commander and his staff.

e. Infantry Follow-up. The armored infantry battalion is prepared to defend its gains for considerable periods while awaiting the follow-up troops. In some situations follow-up troops may be air-lifted to landing fields and air strips seized by the exploiting force, to help defend a critical objective until the less mobile ground follow-up arrives.

f. Field Expedients. Success in exploitation depends to a great extent on the initiative of small unit leaders in improvising means of advancing their ve-

hicles through the bog, sand, and broken terrain. Training in improvising field expedients, as well as detailed training in accepted methods, is important.

g. Aggressive Leadership and Initiative. Commanders with aggressiveness and a high degree of initiative are successful in exploitation. Commanders who can operate only under detailed instructions and strict adherence to pretested methods jeopardize success. Important attributes of a successful commander for exploitation in difficult terrain are resourcefulness, initiative, energy, determination, and enthusiasm. The ability to do the unexpected is also a definite advantage in fighting an enemy that adheres to rigid rules and only acts on authority of higher commanders.

h. Training. An armored infantry battalion that is to be committed to an exploitation mission under adverse terrain and weather conditions needs intensive field maneuvers in areas similar to the area of the contemplated operation. Small unit standing operating procedures are developed, training in field expedients is stressed, and driving under the expected operational conditions is emphasized. Field problems under the most adverse conditions possible in the training area help units develop procedures.

i. Desert Operations, Operations in Extreme Cold, Combat in Jungles, and Combat in Woods. When exploitation is contemplated in these areas, the armored infantry battalion commander also considers the factors discussed in paragraphs 513–520 and 540–546 for those operations.

CHAPTER 12

THE ARMORED INFANTRY BATTALION IN DEFENSE

Section I. GENERAL

356. GENERAL

The purpose of defensive combat is to gain time until conditions are more favorable for undertaking the offensive, or to economize forces on one front while concentrating superior forces for a decision elsewhere. An armored infantry unit may occupy a sector of a main battle position or, when acting independently, assume the defense on its own. It goes on defense independently when it is exploiting or pursuing and is attacked by a superior force, or when it has reached an objective that it must defend until the arrival of other troops or supplies.

357. MOBILE DEFENSE

Mobile defense is a defense, with combat weapons, of an area or position, using maneuver together with organization of fires and terrain to seize the initiative from the enemy. A mobile defense is especially suited to armored units. It takes advantage of the battlefield mobility and offensive shock action of armored units.

358. SUSTAINED DEFENSE

Sustained defense is a defense that is aimed at stopping an enemy attack at the defense line. The bulk of the available forces occupies and organizes the battle position. Reserves are withheld to counterattack hostile penetration of the battle position. A sustained defense is normally used by infantry divisions. It is used by armored divisions when occupying defensive sectors of a width commensurate with their organic infantry strength (FM 17–100).

359. DISPOSITION OF COMBAT COMMAND IN SUSTAINED DEFENSE

In a sustained defense, an armored division may use either one or two combat commands, strong in armored infantry, on the main line of resistance. When only one combat command is used, the other combat command, heavy in tanks, is held in reserve. When two combat commands are used, each withholds a sizeable tank-heavy reserve, or the reserve command may be organized as the main division reserve with the combat commands holding out proportionately smaller reserves.

360. COMMUNICATION

An efficient communication system is necessary to coordinate the units of the defending force, to carry out the fire plan, and to cooperate with adjacent units. Familiarity with the terrain, enough time for planning and installation, and large quantities of signal supplies make it possible to develop elaborate com-

munication systems. These include wire lines to small units and observers.

Section II. FRONT-LINE BATTALION IN SUSTAINED DEFENSE

361. FRONTAGE AND DEPTH

a. The frontage assigned to a front-line armored infantry battalion, reinforced, in the sustained defense is influenced by the terrain and the number of rifle companies used with the battalion. An armored infantry rifle company can organize a front from 600 yards in close terrain to 1,500 yards in open terrain. A battalion with two companies on the MLR can organize from 1,200 to 3,000 yards of frontage. Similarly, a battalion, with three companies on the MLR can organize a frontage of 1,800 to 4,500 yards.

b. The depth of a front-line battalion area varies with the terrain. The area should have enough depth to permit the use of all battalion units and enough space for vehicle parks and assembly areas. This usually means a depth of 800 to 1,500 yards (fig. 72).

362. MOVEMENT TO BATTLE POSITION

After the combat command commander assigns the battalion defense area, the battalion commander studies it on a map. He plans for the immediate movement of the battalion and arranges for his company commanders to precede their units so that they may reconnoiter and plan the organization of their

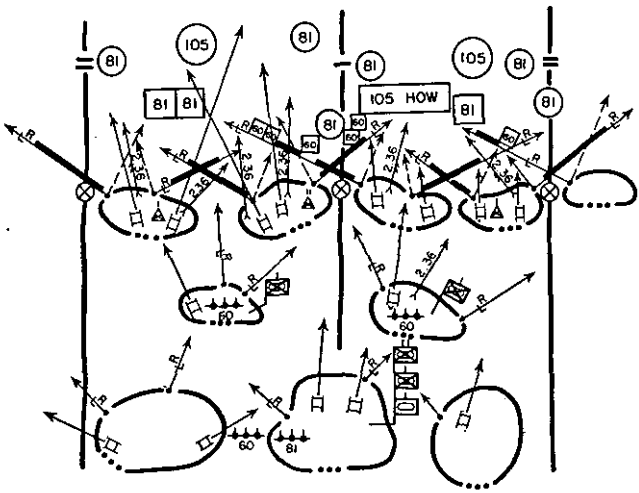


Figure 72. Armored infantry battalion in sustained defense, schematic (heavy tank company attached).

areas. He tries to move units directly to their defensive areas. When this is impossible, he designates an assembly area to which the battalion moves under command of the executive officer. During movement the battalion maintains its local security.

363. RECONNAISSANCE

After ordering movement of the battalion and instructing his staff, the battalion commander makes his personal reconnaissance. This reconnaissance is as detailed as time permits. The battalion commander usually takes with him the S–3, the communication officer, the mortar platoon leader, the commanders of attached units, and the artillery liaison officer, or artillery commander if present. He

may have them make separate, specialized, or concurrent reconnaissances. Other personnel may be directed to reconnoiter in detail and report on specified areas, or to reconnoiter and recommend locations for installations, weapons, and mine fields. The battalion commander identifies the battalion defense area on the ground and verifies approaches for moving the battalion into the area. While on reconnaissance he determines—

a. The probable avenues of enemy approach for foot troops and tanks.

b. Terrain in front of the position to be occupied by security forces to prevent close hostile observation.

c. Natural obstacles in the foreground or terrain features that can be quickly converted into obstacles.

d. Demolitions to be accomplished.

e. Key terrain within the battalion area.

f. The general trace of the MLR.

g. Boundary and limiting point between companies.

h. General locations and direction of fire for machine guns used in close support of the MLR.

i. General locations for 81-mm mortars and areas to be covered by their fires.

j. Details of defensive fires to be requested from supporting artillery.

k. General location for antipersonnel mines, booby traps, and wire entanglements.

l. General location for antitank weapons and mines.

m. Location of possible penetration areas.

n. Areas to be organized by the battalion reserve; its assembly area.

o. Location of observation posts.

p. Location of the aid station, ammunition supply point, command post, and alternate command post.

364. PLANS

a. The defense plan includes distribution and missions of rifle companies and weapons under battalion control. It provides for security, coordination of fires, use of the reserve, use of attached units, communication, and administration.

b. If the defense is undertaken while the battle position is subject to enemy ground observation and fire, the battalion commander indicates rifle company defense areas, makes attachments directly to the rifle companies, and designates the priority of supporting fires. As soon as he can, he readjusts these initial dispositions into a coordinated defense.

c. Before deciding on the supply and evacuation details of his defense plan, the battalion commander receives his S–4's report about the status of vehicles and the proposed composition and location of the combat trains and the field trains. He considers the battalion surgeon's recommendations for establishing the battalion aid station.

365. CHARACTERISTICS OF MAIN LINE OF RESISTANCE

The main line of resistance is located to hold vital terrain. It may be on a forward slope, a reverse slope, or a combination of the two. It is traced to

provide as many of the following advantages as possible:

a. Observation to the front and flanks.

b. Fields for grazing and flanking fire of automatic weapons.

c. Cover and concealment for troops, weapons, and defensive works.

d. Use of natural obstacles—particularly antitank obstacles.

e. Terrain that aids the movement of troops and supplies within the battle position.

f. Denial of close hostile observation into the battle position.

366. TRACE OF THE MLR

The trace of the MLR is irregular and contains minor curves to give better flanking fire. Large salients into and out of the positions are avoided. The defense areas on the MLR are mutually supporting and capable of all around defense.

367. FORWARD SLOPE

A battle position with its MLR on a forward slope has many advantages. From such a position the battalion has long-range observation forward of the MLR. A forward slope position usually has the most effective fields of fire for flat-trajectory weapons. Good observation and firing positions help control the natural and artificial obstacles in front of the position. By extending the rear limits of the company defense areas to the reverse slope, the battalion gains concealed and defiladed routes of com-

munication. These routes aid in the movement of troops and supplies, and control.

368. REVERSE SLOPE

The MLR is located on the reverse slope when the enemy can place enough direct and observed fire on the forward slope to make it untenable; when there are better fields of fire for flat-trajectory weapons; when necessary to avoid dangerous salients and reentrants; or when control of the forward slope is lost or has not been gained. Observation is necessary in a reverse slope defense. It may be obtained from security elements on, or forward of, the topographical crest, and from observers on terrain features to the flanks and rear.

369. BOUNDARIES AND LIMITING POINTS

The front-line company defense areas are assigned by designating boundaries between companies with limiting points on the boundaries. These points indicate the general trace of the MLR and the localities at which front-line company commanders coordinate their defenses. Boundaries are fixed to assign frontages to the front-line companies in proportion to the defensive strength of the terrain and the amount of supporting fires allocated to the area. Boundaries are located to avoid dividing responsibility for the defense of key terrain and critical avenues of approach.

370. RIFLE COMPANIES

a. The battalion commander uses his rifle companies to best accomplish the battalion's mission.

This generally results in placing two or three companies on the MLR—two if only three companies are available, three if four are available to the battalion commander. In either case one company is used in reserve.

b. Front-line rifle companies occupy key terrain features and tactical localities within the assigned defense areas. They are located to be mutually supporting, and are capable of all-around defense and of giving close protection to all supporting weapons within their area.

c. The company selected for the *reserve* is given more tank strength than companies in the line. The reserve is constituted as a tank-armored infantry team and is located to provide depth to the battalion defense area. It may occupy key terrain in the rear part of the battalion area if organized to block approaches into the rear area. It may counterattack to destroy a hostile penetration or occupy previously prepared positions to block and contain a penetration while the reserve of a higher unit counterattacks. Additional missions of the reserve company may include establishing the combat outpost and assisting in the organization of forward defense areas.

371. VEHICLES AND VEHICULAR WEAPONS

When the situation permits, maximum use is made of vehicular weapons in the sustained defense. Carriers of the front-line rifle companies normally are placed in covered and concealed positions behind the battalion reserve. The company commander's headquarters section carrier may be left in the front line for control purposes. Carriers of reserve elements

may remain with their units to transport the reserve to the assault position for counterattack or to transport armored infantry accompanying tank counterattacks.

372. MORTAR PLATOON

The 81-mm mortars are emplaced by platoon for better fire control, supply, and administration. When the terrain or tactical situation prevents this, the mortars are divided into squads. They occupy positions in defilade within communicating distance of the observation posts. When used as a platoon, the mortars are emplaced near the reserve company's primary position. When working as squads, the mortars are put between the reserve company's primary positions and the front-line defense areas. Here, minor penetrations will not force displacement. They are not located in the more likely areas of hostile penetration. Squads prepare supplementary firing positions to the rear to permit continuous fire against deep penetrations within the battalion area. The battalion order assigns concentrations and barrages for the guns of each squad or for the platoon.

373. SUPPORTING ARTILLERY, GENERAL

The division commander, through the division artillery officer, controls and coordinates the use of all divisional artillery. Normally, one battalion of light artillery is in direct support of each combat command. The combat command commander allocates the priorities of fires of the artillery battalion

to the front-line infantry battalions. Priorities depend on the defensive strength of the terrain. The infantry battalion commander designates areas on the ground to be covered by the allotted artillery fires.

374. TYPES OF ARTILLERY FIRE

Types of artillery fire are concentrations and barrages.

a. Concentrations are planned fires to engage the enemy forward of the MLR and within the battle position if he makes a penetration. Concentrations are 150 yards in diameter for one 105-mm battery; 250 yards for one 105-mm battalion.

b. Barrages are planned fires located immediately in front of the battle position as a part of the final protective fires. Each 105-mm battery can fire one barrage 100 yards deep and 150 to 300 yards wide.

c. Artillery units not firing barrages may reinforce fires in a threatened area.

375. ARTILLERY LIAISON OFFICERS

One artillery liaison officer operates with each infantry battalion. He assists the battalion commander in planning, coordinating, and requesting and obtaining artillery fires.

376. ARTILLERY FORWARD OBSERVERS

Artillery observers work with the infantry units to adjust and control close-supporting artillery fires. Normally, one forward observer is in the area of each reinforced company.

377. TANKS, GENERAL

The number of tanks attached to a front-line armored infantry battalion in sustained defense is determined by the terrain, the frontage, the enemy situation, and the number and type of tanks available to the combat command. Tanks attached to a front-line armored infantry battalion are used to provide antitank defense in depth, reinforce the battalion fires, and, supported by armored infantry elements, make counterattacks.

378. TANK EMPLOYMENT

Part of the attached tanks occupy firing positions in the front-line company areas and engage hostile armor as soon as it comes within effective range. The fires of some tanks may be withheld initially to gain surprise. Initially, part of the tanks attached to the front-line companies may be used with the combat outpost. Tanks so used usually revert to the reserve upon withdrawal of the combat outpost. Most of the tanks with the front-line armored infantry battalion are used with the battalion reserve. Firing positions are prepared from which the tanks with the reserve unit can support front-line units by fire, block, and contain a hostile penetration. When the battalion reserve counterattacks, all tanks not engaged or that can be disengaged take part in the counterattack.

379. CONTROL OF TANKS

For maximum coordination, flexibility, and control in sustained defense, all or part of the attached

tanks may be kept under battalion control. However, tanks in counterattack roles are used as members of a tank-armored infantry team.

380. COORDINATED FIRE PLAN, GENERAL

a. The success of a sustained defense depends on the degree of coordination of the fires available to the defending force. Every unit is responsible for preparing plans that coordinate its available fires. The coordinated fire plan consists of those plans made by commanders in advance of the battle to insure that maximum effective fire is brought on the attacking force throughout the defense. It includes fires of individual and supporting weapons on targets of opportunity and the prearranged fires of such supporting weapons as can be used under any conditions of visibility. It also includes the selection of positions for all weapons, the establishment of an effective fire control system, the planning of fires on probable targets, and the prearrangement, to include survey and registration, of as many of these fires as time permits.

b. The coordinated fire plan seeks to bring the enemy under fire as soon as air or ground observers can see him, to hold him under an increasingly heavy volume of fire as he approaches the battle position, and to eject him from the battle position by a combination of fires and counterattack. *Planned* fires on a target area become *prearranged* fires upon completion of fire data for that target area. For effectiveness, as many of the planned fires are prearranged as time permits. Planned fires for the defense fall into four phases: long-range fires, close

defensive fires, final protective fires, and fires within the position.

381. LONG-RANGE FIRES

Long-range fires are planned to engage the enemy as early as possible, to inflict casualties, to delay his advance, and to disrupt his organization. They consist of fires of supporting weapons that are located within the battle position and can fire at long ranges without disclosing the forward units of the battle position. They include fires of the combat outpost. When the enemy comes close enough, long-range weapons fire on located or suspected enemy targets. As the enemy continues his advance and comes within range of additional weapons, he is brought under an increasingly heavy volume of fire.

382. CLOSE DEFENSIVE FIRES

Close defensive fires are planned to disorganize the attacking force before it can assault by inflicting the greatest possible number of casualties, by disrupting command control and communication, by denying observation, and by neutralizing supporting fires. They consist of the fires of all weapons that can fire on the enemy until he launches an assault.

383. FINAL PROTECTIVE FIRES

Final protective fires are planned to break up the enemy assault on the battle position by placing a band of concentrated fires across the battle position just in front of the MLR. They consist of prear-

ranged fires that can be delivered under any conditions of visibility. They include machine gun final protective lines, mortar barrages, and artillery barrages. Final protective fires are delivered on the call of a unit on the MLR when the enemy assaults its position. Only those supporting weapons whose final protective fires are in front of the threatened unit fire their assigned final protective lines or barrages. All other available weapons supplement or reinforce those final protective fires and add to the intensity of the fires in the threatened portion of the defensive position. Flat-trajectory weapons engage targets of opportunity. High-angle weapons reinforce the barrages or engage more remunerative targets.

384. FIRES WITHIN POSITION

Fires within the position are planned to limit possible penetrations of the battle position, and to support counter-attacks. They consist of the fires of available supporting weapons and the fires of individual weapons that can fire into the penetrated area. If the enemy penetrates the battle position, all available fires are used to limit the penetration, to prevent enemy reinforcements from entering the penetrated area, and to destroy the enemy within the penetrated area. If the penetration jeopardizes the battle position, a counterattack is made to eject the enemy as soon as the penetration is contained. Plans for probable counterattacks are made during the organization of the defense. Prearranged supporting fires are coordinated by the counterattacking force commander.

385. DEVELOPMENT OF BATTALION COORDINATED FIRE PLAN

a. General. The first steps in the preparation of the battalion coordinated fire plan are personally supervised by the battalion commander and are included in the battalion defense order. These steps consist of the plans for supporting fires that can be delivered on predetermined target areas under any conditions of visibility and that are under the direct control of the battalion commander. They may also include the fires of all or part of the rifle company machine guns. As the lower-unit commanders organize their defense areas, they plan their fires to supplement and reinforce these planned fires of the battalion commander. The battalion commander gives general supervision to the plans of lower units and directs changes for maximum effectiveness. These plans, coordinated and approved by the battalion commander, become the battalion coordinated fire plan.

b. Observation. The delivery of timely and accurate supporting fires throughout the defense requires detailed coordination of observation. Agencies coordinated include the unit observation posts as well as artillery and mortar forward observer parties. Observers are located in width and depth to provide overlapping observation of all portions of the defense area and maximum observation of the most probable avenues of approach. The battalion commander coordinates observation within his defense area. Several observation posts are not located in one locality. Provision also is made for any observer

to call for and control the fires of any supporting weapons.

c. Long-Range Fires. The combat command commander ordinarily plans long-range fires beyond the observation of the combat outpost, since such fires are coordinated with the location and withdrawal of the general outpost. Long-range artillery and mortar fires to be observed from the combat outpost are included in the battalion plan. Observers for these fires are located with the combat outpost that they support.

d. Close Defensive Fires. In planning the close defensive fires, the battalion commander and his assistants reconnoiter in detail. They determine areas from which the attacker can observe the battle position, probable hostile attack positions, and avenues of approach. They plan for detailed coverage of the foreground by fire. They give priority of fires from high-angle fire weapons to defiladed areas. They consider open areas over which the attacker may attempt a rapid attack during periods of poor visibility or under cover of his own smoke. Fire data is computed to permit massing unobserved fires on such areas and approaches. Prearranged concentrations are numbered so that any observer can quickly call for fires of all weapons capable of engaging the desired target area. Smoke concentrations are planned to screen hostile observation. Direct-fire weapons are assigned principal directions of fire or overlapping sectors of fire.

e. Final Protective Fires.

(1) Final protective fires include the machine gun final protective lines in support of the

MLR, artillery barrages, and 81-mm and 60-mm mortar barrages. These fires are planned to provide a continuous band of fire across the entire front or in front of any threatened part of the position. The battalion commander coordinates these fires within the battalion and with the fires of adjacent units so that there are no gaps. Points requiring coordination by adjacent battalion commanders include the exchange of machine gun final protective lines, planning adjacent barrages at the boundary lines, or a combination of these two measures. Before occupying the position, the battalion commander determines the final protective lines of selected rifle company machine guns. Machine gun final protective lines in front of adjacent defense areas are planned at least 50 yards in front of friendly troops to stop the enemy before he reaches hand grenade range and before he reaches an area from which he can rush the position in one bound. The battalion commander determines the areas in which artillery and 81-mm mortar fire will be used. To insure safety to friendly troops, mortar and artillery barrages are planned 100 to 200 yards forward of the MLR.

(2) The battalion commander authorizes certain personnel to call for these final protective fires. He sees that every approach to the area is covered by at least one individual

who is authorized to call for these fires. Normally front-line company commanders and front-line platoon leaders are authorized to call for final protective fires to block approaches to their defensive areas. Final protective fires which support adjacent battalions may be opened on call from either battalion. The battalion order provides for calling for these fires by alternate means of communication. It designates those weapons which will open fire on any given signal, the rates of fire under conditions of reduced visibility, and the duration of fires. Final protective fires are continued until the locality asking for them requests firing to cease, or until the duration prescribed in the battalion order has elapsed. This duration seldom exceeds 10 minutes; if additional fire is needed, the call is repeated. Visual signals and time lengths of fire are varied to prevent enemy duplication of signals and knowledge of fire routine.

f. Fires of Rifle Company Weapons. The barrages of the 60-mm mortars of the front-line companies and the final protective lines of the light machine guns of the front-line rifle platoons are included in the final protective fires of the battalion plan. The fires of these weapons are used to close gaps in the fires of the weapons whose missions are assigned by the battalion commander. Normally, the barrages of the 60-mm mortars are assigned by the rifle company commander and the final protec-

tive lines of the light machine guns of the front-line platoons are assigned by the platoon leader. The battalion commander checks them and sees that they are coordinated with the battalion fire plan. For maximum coordination, final protective missions for selected light machine guns of the front-line rifle platoons are designated in the battalion order.

g. Rates of Fire. Rates of fire usually prescribed are—

(1) For *heavy machine guns*—250 rounds per minute for 2 minutes and 125 rounds per minute thereafter.

(2) For *light machine guns*—125 rounds per minute for 2 minutes and 75 rounds per minute thereafter.

(3) For *81-mm mortars*—30 rounds per minute for 2 minutes and 18 rounds per minute thereafter.

(4) For the *supporting artillery*—usually prescribed by higher headquarters.

h. Fires Within the Position. To give additional depth to the defense, the battalion commander plans concentrations and the use of direct fire weapons within the battle position. He gives priority of prearranged fires to the most likely area of penetration. To prevent the enemy from exploiting his initial successes, additional concentrations are prearranged to cover critical areas next to the expected penetrations. If the situation warrants, these fires are reinforced by all fires available within the combat command and division.

386. ANTITANK DEFENSE PLAN

a. Concurrently with other defensive measures, the battalion commander develops a coordinated antitank defense plan consisting of obstacles, both natural and artificial, and the fires of suitable weapons.

b. Tanks placed with the front-line units have a primary mission of antitank defense and are sited to support the MLR. However, these tanks must be able to move rapidly in the counterattack or to areas that are more threatened. The tanks made available to the armored infantry battalion commander are used to cover the more dangerous tank approaches. Tanks normally open fire at their maximum effective range. The combat command commander normally attaches one or more companies of tanks to each front-line armored infantry battalion. If one battalion has a particularly dangerous approach for hostile armor, or if additional tanks are made available, two companies may be attached to one front-line armored infantry battalion. Besides reinforcing the fires of the MLR, tanks so attached are used to extend the depth of the antitank defense of the battalion area, and to lead or support a counterattack by the reserve elements of the battalion. Tanks located in the battalion rear areas assist the reserve elements in blocking penetrations of the battle position by reinforcing their fires, and engage hostile tanks which threaten the flanks and rear of the battalion area.

c. The rocket launchers are used to protect installations such as command posts and crew-served weapons positions.

387. ARTIFICIAL ANTITANK OBSTACLES

a. Artificial obstacles include antitank mine fields and other constructions to impede the movement of tanks.

b. (1) The use of *antitank mine fields* is coordinated with the use of other obstacles and antitank weapons. Antitank mines are laid forward of the MLR to connect and extend other obstacles, and to canalize hostile armor into areas where antitank fires are most effective. Antitank mines may also be laid in depth throughout the battle position to prevent the free movement of tanks that penetrate into the battle position. To guard against removal or breaching by the enemy, mine fields are covered by small-arms fire; they are also covered by antitank fires to destroy disabled tanks. When mine fields and barrages of mortars and artillery are planned in the same general area, the mine fields are located at the near edge of the barrage areas.

(2) Under normal conditions, mine fields are prepared according to plans established by combat command or division. The combat command commander may delegate the responsibility for laying the mines and may allot mines to the front-line battalions. All combat soldiers are trained in the construction of obstacles and in the technique of

placing, recording, and marking mine fields. Engineers may furnish some technical assistance. When *dummy mines* are used, they are marked similiarly to live fields. To protect friendly troops against accidental detonation, the battalion keeps guards over mine fields in the battalion area.

388. ORGANIZATION OF GROUND

a. As soon as a position is occupied, the battalion strengthens the defense by clearing fields of fire and constructing individual shelters, emplacements for weapons and tanks, and obstacles. Concealment and camouflage tasks are carried out concurrently with construction tasks.

b. The battalion commander's *plan* for organization of the ground prepares the battalion for combat in the shortest time. Tools and materials are allotted according to the amount and urgency of the work to be done by the various units.

c. The battalion commander and his staff *supervise* the work to insure that the terrain is used to the best advantage, that concealment and camouflage measures are carried out, and that the work in the position progresses without loss of time or effort.

d. If the defense area to be occupied is under hostile artillery fire or air attack, the battalion may first occupy concealed positions nearby. Organization of exposed positions is either postponed until dark or accomplished piecemeal by the infiltration of small groups.

e. The normal *priority* of work is indicated below, although most tasks are done concurrently:

(1) Clearing fields of fire.
(2) Laying antitank mine fields and antipersonnel mines.
(3) Providing signal communication and observation systems.
(4) Preparing weapon emplacements and individual shelters.
(5) Preparing obstacles other than mine fields.
(6) Preparing routes for movement of reserves and attached tanks, and for supply and evacuation.

f. When possible, front-line companies are assigned no other tasks while organizing their defense areas. Clearing fields of fire, emplacing crew-served weapons, and digging individual shelters receive first priority.

g. Elements of the reserve company not being used on security missions may be ordered to help the front-line companies organize the ground. This includes laying mine fields, preparing obstacles, and clearing fields of fire. First priority of work within the reserve company area is the preparation of primary platoon positions. When the reserve company is to prepare positions to protect the flanks and rear of the battalion area, the priority of such work is stated in orders. Work on these positions may be postponed until the organizations of the forward areas is well under way.

389. MISSIONS FOR ENGINEERS

Engineers usually are assigned special missions by higher headquarters. When available to the battalion they construct obstacles, prepare demolitions, lay mine fields, and do other work requiring special equipment and training.

390. CONCEALMENT

All works are sited to take advantage of natural concealment. Where they cannot be concealed they are camouflaged. Emphasis is given to concealment from air observation and photography.

391. PERSONNEL OBSTACLES

a. Tactical obstacles are located to stop or divert the hostile approach. Barbed wire entanglements antipersonnel mines (when authorized), and other obstacles are located to break up the enemy's attack formation and hold him in areas which are covered by the defensive fires of automatic weapons. Tactical obstacles are placed to be inconspicuous from ground or air observation, and so that direct fire can prevent their removal or neutralization by the enemy.

b. Protective obstacles consist of barbed wire, trip flares, and antipersonnel mines (when authorized). They are located to prevent the enemy from delivering a surprise assault from positions close to defense areas. Such obstacles are near enough to defense areas to be watched day and night. They are far enough away to prevent the enemy from lying beyond the obstacles and using hand grenades. When

needed, additional obstacles are installed close to defense areas.

392. DUMMY WORKS

Dummy works may be used to mislead the enemy and disperse his fire. To be effective they must closely resemble genuine works. Dummy works should be at least 150 yards from any true position so that fire directed at them will not include occupied localities. For further deception, dummy works may be manned with small groups during preliminary phases when the enemy tries to locate defensive works by air reconnaissance and ground patroling.

393. SECURITY, GENERAL

Security elements to protect the battle position consist of aviation, a covering force, a general outpost, a combat outpost, and local security. As many of these security elements are used as possible. The security elements in front of the combat outpost are established by higher headquarters.

394. COMBAT OUTPOST

a. The combat command defense order normally includes instructions as to the general trace of the combat outpost, its strength, and the battalion responsible for its organization. The combat command commander normally controls and coordinates the actions of the combat outpost. When the responsibility of establishing the combat outpost is delegated to a front-line battalion, control may be main-

tained by the battalion commander. Elements of the reserve company normally man a combat outpost that is established by a front-line battalion. If the outpost is less than 800 yards from the battle position, the battalion commander may order front-line companies to outpost their respective fronts. The combat outpost for each battalion may vary in size from a rifle platoon to a reinforced rifle company. The combat outpost provides observation over the terrain to the front, denies the enemy ground observation of the battle position, and prevents enemy-observed fire against the battle position. To meet these requirements, the combat outpost normally is 800 to 2,000 yards from the MLR.

b. The *mission* of the combat outpost is to delay, disorganize, and deceive the enemy. It aids in securing the battle position, gains timely information of the enemy, and inflicts maximum casualties on the enemy without engaging in close combat. The combat outpost coordinates closely with security echelons to its front. When there are no friendly troops to the front, the combat outpost patrols to keep contact with the enemy. It tries to bring the enemy under long-range artillery and mortar fires. Liaison planes help the combat outpost locate the enemy and adjust fires. As the enemy approaches, outpost weapons open fire at long ranges. As he advances, the enemy meets continuous and increasing resistance by fires. Before dark the combat outpost may be strengthened to increase patrols during darkness and so keep close contact with the enemy.

c. When established by a front-line battalion, the combat outpost withdraws on orders of its battalion

commander. If out of communication with the battalion commander, the combat outpost commander withdraws his troops when necessary to prevent their capture or destruction by the enemy. When the combat outpost is close to the battle position, withdrawal is made directly to a designated area within the battle position. If the mission requires further delay, the withdrawal may be made by using successive delaying positions. The outpost uses previously reconnoitered routes of withdrawal that give maximum cover and concealment, and permit fire by flat-trajectory weapons from within the battle position. Routes are selected to deceive the enemy as to the true location of the battle position. Several plans for withdrawal are prepared in case of contingencies. Normally, the least engaged units are withdrawn first. The first units withdrawn may, by establishing a delaying position, assist other units in breaking contact. Less engaged units may be used to increase the fire in front of the most engaged unit preparatory to its breaking contact. Units within the battle position and adjacent battalions are notified immediately of the start of the withdrawal. Front-line units are notified when all elements of the combat outpost have cleared the MLR.

395. LOCAL SECURITY

All units establish local security for their own close-in protection. It consists of sentinels, observation posts, and listening posts within the unit defense areas and covering the immediate approaches to these areas.

396. FLANK SECURITY

Information of the situation in adjacent sectors is obtained through liaison personnel and observers who keep the flanks under constant observation. Lateral wire communication is established between battalions. Exposed flanks may be secured by patrols and by detached posts that block the principal approaches. Demolitions and obstacles are used.

397. COUNTERATTACK, GENERAL

a. The purpose of the counterattack is to reestablish the MLR, by destroying or driving out all enemy forces that have penetrated it. A counterattack normally is made by a combination of foot elements, tanks, and supporting fires. Conditions favorable for the combined action of the infantry-tank team frequently are present in the counterattack. The team's mobility, armor-protected fire power, and shock action is particularly effective in a counterattack. The counterattack usually is made against the flank of the enemy penetration. When hostile armor dominates a penetration or is capable of exploiting the penetration, the commander must use all means available to overcome that armor if the counterattack is to succeed. The battalion commander notifies the combat command commander immediately when he decides to commit the reserve company.

b. Except on combat command order, the battalion reserve does not counterattack against an objective outside the battalion defense area. The route to the line of departure for the counterattack may cross into an adjacent battalion area, however, if such a

maneuver has been coordinated with the commander of that area. The counterattacking force should avoid passing through occupied defense areas. When the enemy is ejected from the battalion defense area, he is not pursued beyond the MLR, but is engaged thereafter by fire alone. The counterattack is supported by all available weapons.

c. The number of attached tanks that may support the counterattack depends upon conditions imposed by the terrain and the enemy. Some of the attached tanks may be held in firing positions to protect other portions of the battalion area; some may be employed to fire into the area of penetration. The reserve company commander and the attached tank unit commander coordinate in detail on all phases of the counterattack plans.

d. When time permits, counterattack plans are rehearsed with troops and tanks. The commanders of weapons which support the counterattack are present at these rehearsals.

398. COUNTERATTACK PLANS

a. The battalion order lists the areas of likely penetration for which counterattacks are to be planned. It states the priority in which the plans are to be prepared. The reserve commander prepares these plans and submits them to the battalion commander for approval.

b. For each counterattack, the reserve company commander's plans include—

(1) Line of departure and routes to it.

(2) Formation.

(3) Direction of counterattack.
(4) Objective.
(5) Fire support.
(6) Employment of attached and supporting units.
(7) Actions after reaching objective.
(8) Communication.
(9) Rehearsals or briefing of unit commanders.
(10) Coordination with commanders through whose areas the counterattack passes.

399. CONDUCT OF THE DEFENSE, GENERAL

a. The defense of a battalion area combines secrecy, surprise, deception, aggression, mobility, and flexibility of fires. As the attacker comes under the observation of patrols, air observers, or combat outposts, he is subjected to long-range artillery and mortar fires, and to fires from combat outposts. The intensity of these fires increases as he advances and comes within range of other weapons.

b. Before having to engage in close combat, however, the combat outpost is withdrawn to prepared locations within the battle positions. Prearranged artillery and mortar fires support the withdrawal of the combat outpost. When the combat outpost has withdrawn, fires against targets of opportunity usually are opened on the initiative of weapon commanders or observers.

c. Liaison personnel from supporting weapons units usually stay with the battalion commander at the battalion observation post. Through them, the battalion commander concentrates fires on desired

target areas. The attacker is held under an accurate and heavy volume of fire as he approaches the battle position. Except for tanks, weapons in the front-line platoon defense area do not open fire until the attacker is within effective range of small-arm fire. This restriction avoids premature disclosure of the defense area and increases the fire effect.

d. As the enemy draws closer to the battle position and delivers heavy fires in preparation for his assault, front-line troops being subjected to these fires take cover in their fox holes or emplacements.

e. Most of the small arms along the MLR are not fired until the hostile attack is definitely committed and the mass of enemy supporting fires is lifted to areas behind the MLR. Where the foreground of the position is divided into cross compartments, with intervening areas of dead space giving defilade to the attacker, small-arms fires from the MLR are withheld until the hostile attack has arrived at the nearest ridge. When the attacker reaches an area from which he can launch an assault, final protective fires are laid down in front of the MLR. If the attacker succeeds in reaching the battle position, resistance is continued by increased fires and by close combat.

f. The success of sustained defense depends upon each unit holding its assigned area. Each unit entrusted with the defense of a tactical locality defends it at all cost, unless otherwise ordered by higher authority. Local commanders hold their positions and close gaps by fires or by use of their supports or reserves. Troops are made to realize that hostile groups will work to their rear; that they must there-

fore be prepared to fight in any direction; and that by successfully holding their positions they form the basis for successful counterattacks by units to their rear.

g. If the enemy penetrates the battalion defense area, the battalion commander first seeks to destroy or eject him by fire alone. If this fails, then prearranged fires are used to neutralize and contain him within the penetration area. The battalion commander decides whether to counterattack, to block, or to do both. His decision to use the reserve is carried out before the reserve is overrun or otherwise immobilized by the penetration. The known disposition of friendly troops in both higher and lower echelons, the terrain, the characteristics of the enemy, and the intensity of the enemy buildup affect the decision to use the reserve.

400. COUNTERATTACK

a. If the enemy penetrates the battle position, immediate efforts are made to limit the penetration. All available weapons of units on the flanks of the penetration, company supports, and, when necessary, the battalion reserve fire into the penetration. If the penetration is limited by troops and fires from other than the reserve, the battalion commander may direct the reserve to counterattack and restore the battle position. While the battalion reserve is moving to its line of departure, prearranged fires are delivered into the penetration. The reserve moves to the attack position and line of departure along previously selected routes. The tanks do not pass through the

organized defense areas of the defending infantry, but through the gaps between them. The attack position of the tanks and the line of departure of the reserve company are close together. Tanks and foot elements form the assault wave of the counterattack. There is close coordination and communication between them. The tanks remain in the vicinity of the restored MLR until the infantry reoccupies the penetrated area. Then the tanks withdraw to their assembly area and move back to their primary positions.

b. The counterattack has priority of fires. All weapons that can engage the enemy in the penetrated area are used to assist the counterattack. The fires are divided into two parts—first, those placed to neutralize the enemy within the battle position; and second, those forming a band of fire across the neck of the penetrated area to prevent the enemy from reinforcing the penetration. The fires within the penetrated area are lifted on signal from the counterattack commander. They are then shifted to reinforce the fires across the neck of the penetration. These fires continue until the MLR is reestablished. Detailed arrangements are made for lifting and shifting fires. Smoke may be used to deny enemy observation during the counterattack.

401. ACTION AFTER COUNTERATTACK

After the counterattack has restored the MLR, the battalion commander sees that crew-served weapons are replaced. He designates units to remain and defend the MLR and units to reconstitute the reserve. The new reserve is usually organized either

from the front-line units which were relieved by the counterattack, or from the counterattacking force. If the counterattack fails to eject the penetrating force, the counterattacking troops dig in and hold, and the combat command commander is informed.

402. PENETRATIONS IN ADJACENT AREAS

a. Penetrations in adjacent areas are opposed by committing all or part of the reserve to flank positions in order to prevent the widening of the penetration and the envelopment of the battalion flank.

b. A penetration astride a battalion boundary is opposed at first by fire from both battalions. Any counterattack necessary to eject the enemy from the area of penetration is coordinated by the combat command commander.

403. DEFENSE AGAINST INFILTRATIONS

Observation and listening posts keep the ground between defense areas under constant watch. Areas which cannot be observed are searched by combat patrols or blocked by small security detachments.

404. RELIEF, GENERAL

Units in a prolonged defense or units subjected to repeated and costly attacks are relieved to restore their fighting efficiency. The battalion may be involved in the following types of relief:

a. The combat command reserve battalion relieving a front-line battalion.

b. The battalion being relieved by another unit of different size and organization.

c. The relief within the battalion of a front-line company by the company in battalion reserve.

405. RELIEF PRINCIPLES

The purpose of the relief is to interchange units without weakening the existing defense. Changes in the organizaton of the defense that may be desired by the incoming unit commander are made only after the relief is completed. Throughout the planning and execution of the relief, strict secrecy is maintained. If the situation permits, the relief is done during darkness. Supporting fires, patrols, radio and wire traffic, vehicular traffic, and outposts continue as normal. A relief is executed only upon orders of next higher commander, and periodic progress reports are made. A relief during darkness begins early enough so that the relieved unit can be covered and concealed in a rear assembly area by daylight. Permanent withdrawal of a battalion starts early enough for that unit to be in covered positions or routes before daylight.

406. PLANNING A RELIEF

Because units involved in a relief are highly vulnerable, the relief is done rapidly with minimum confusion. Detailed and complete plans are given to higher and lower commanders. The principal steps in planning the relief are—

a. Detailed Daylight Reconnaisance by the Battalion Commander and His Staff. This reconnaissance includes routes to and from the position to be relieved; selection of forward assembly areas; in-

formation of the enemy situation and his probable approaches into the defensive sector; and inspection of the existing defense plan by the incoming commander to include the coordinated fire plan, disposition of troops, coordination with adjacent and supporting units, and counterattack plans.

b. Guides. Guides are carefully selected men who are familiar with the terrain. The unit to be relieved furnishes guides for the relieving unit from its forward assembly area to its positions.

407. ORDERS AND REPORTS FOR A RELIEF

The combat command and battalion commanders issue relief orders prescribing the time for beginning and completing the relief, routes to be followed, locations of battalions and company assembly areas, march formations, designation of guides, instructions for exchange of supplies, and security measures. The relief order is issued in time to permit incoming commanders (including platoon leaders) to visit their defensive positions and to permit reconnaissance with outgoing commanders. A system of reports is established to keep commanders abreast of the progress of the relief.

408. CONDUCT OF A RELIEF

a. Every effort is made to prevent the enemy from detecting the relief. If an attack occurs before the incoming commander assumes responsibility for the defense, he assists the outgoing commander with all means. His further conduct of the defense depends on the type of relief he makes.

b. When the relief order arrives from the combat command, the incoming battalion commander makes his plans as previously discussed. If the combat command order does not specify a battalion assembly area, the battalion commander selects his own. He also selects assembly areas for the rifle companies. At designated hours the battalion is led to the assembly area by guides selected from its own personnel. On arrival at its assembly area, each rifle company, with attached weapons personnel, is met by a guide from the front-line units. The companies then are led either directly to positions or to further company assembly areas where platoons are guided to final positions. The battalion commander goes to the command post of the outgoing battalion. He assumes responsibility for the defense when the major part of his command is in position and he has established control, or when ordered to do so by the combat command commander.

c. The outgoing battalion commander issues his battalion relief order after his plans are coordinated with the incoming commander. His guides check their routes. When relieved, each outgoing company is guided to the battalion assembly area.

d. For a battalion either relieving or being relieved by a unit of different size or organization, the principal steps outlined above are followed where applicable and changed only to meet special conditions.

e. In the relief of a front-line unit by another unit within the battalion, the battalion commander plans the relief and issues the order. He—not the company commanders—designates guides and march formations.

Section III. RESERVE BATTALION IN SUSTAINED DEFENSE

409. GENERAL

The armored infantry battalion, or elements of the battalion, may be used as a part of the combat command reserve. The combat command reserve consists of both tank and armored infantry elements, with tank elements forming most of the strength of reserve. The mission of the combat command reserve is to block enemy penetrations of the battle position, destroy any penetrations by counterattack, or a combination of both.

410. EMPLOYMENT

Key terrain is organized and plans made for the occupation of positions to block penetrations from the front, flanks, or rear. The positions to be prepared and their priority of preparation are usually designated by the combat command commander. The combat command commander announces areas of possible penetration for which counterattack plans will be prepared. The reserve commander prepares the plans, coordinates with supporting units, and submits the plans to the combat commander for approval.

Section IV. MOBILE DEFENSE

411. GENERAL

a. Mobile defense is based on an outpost system, placed on dominating and critical terrain features that cover likely avenues of approach, and a strong,

mobile reserve held back of it to be used as a counterattacking force. The outpost strong points discover the enemy's approach and repulse his attack, or, if forced to withdraw, seek to so canalize and engage him as to provide for the most effective use of the reserve. The reserve is constituted in the greatest strength consistent with the size and composition of the defending force.

b. Positions occupied in the mobile defense will often be a considerable distance from the area to be defended. This gives the defending force ample room for maneuver and provides ground that can be given up to the enemy if an advantage can be gained from such an action.

c. Because of extended frontages to be covered, the need for a powerful, mobile counterattacking force, and the principle of giving up ground rather than holding a line, a mobile defense requires a force of great mobility and heavy fire-power. Mobile defense takes maximum advantage of the characteristics and capabilities of armored units. The reinforced armored infantry battalion rarely assumes the mobile defense independently. However, if it must, it organizes in the same manner as the combat command or division of which it is a part. From a combat command or division viewpoint, a powerful, mobile reserve must be available in the mobile defense to counterattack decisively. This requires a force consisting mainly of tanks supported by armored infantry. Since the reserve is predominately tank, the outposts normally are predominately armored infantry supported by tanks. The reinforced armored infantry battalion in the mobile

defense generally has the mission of establishing the outpost system for the combat command while the reinforced tank battalion or battalions are in reserve.

d. The reserve is the most important element of the mobile defense. To accomplish its mission of defeating the enemy attacking force, it must be relatively large and should consist of combined arms teams heavy in tanks. It must be employed aggressively, using its inherent mobility and fire power, together with all available fire support, to overwhelm the enemy attacking force at the time and place the commander has selected. Whenever possible, the reserve is committed as a unit.

e. Mine fields and barriers are used in accordance with time available, terrain, and orders from higher headquarters. However, no emplacements or obstacles are made that will hinder the maneuver of the forces occupying the strong points or of the reserve.

412. FUNDAMENTALS OF MOBILE DEFENSE

a. Fundamentals. The mobile defense is based on the following fundamentals:

(1) Organization of terrain.
(2) Coordination of fire support.
(3) Counterattack by mobile reserves.
(4) Defense in depth.
(5) Security.
(6) Flexibility.

b. Organization of Terrain. The terrain is organized so that critical terrain features are held or covered by fire to deny them to the enemy.

c. Coordination of Fire Support. The firepower of the reinforced armored infantry battalion is coordinated by the battalion commander to take advantage of all weapons.

d. Counterattack by Mobile Reserves. In the mobile defense the counterattack by the mobile reserve is the key to success. This reserve is normally committed in its entirety. It has the mission of destroying the enemy, preferably in front of the outpost system. The counterattack requires maximum use of maneuver and fire power. The counterattacking force selects the point of contact with the enemy to do him the greatest damage. In mobile defense, the counterattack is not merely an effort to restore a line or eject the enemy from an area. It is an all-out effort to destroy the enemy forces against which it is launched.

e. Defense in Depth. The mobile defense requires the combat command reserve to be the force to gain the decision. Therefore, the defensive organization must be deep enough to give the reserve enough room to maneuver.

f. Security. All elements of the battalion are responsible for their own local security. The outpost system provides security for the battalion by using observation posts to constantly observe the front by day and listening posts to detect the approach of an enemy by night.

g. Flexibility. The mobile defense is flexible. The defense is planned in great detail, but the battalion and company commanders who carry it out are prepared to meet the varied conditions of a fluid battle. Plans are made to counter possible enemy actions

but they are modified to fit actual situations as they arise. An armored infantry battalion prepares itself for unusual situations through training that emphasizes flexibility of procedures and initiative of commanders. Even in abnormally wide battalion sectors, the defense remains elastic and planning is continuous to permit temporary withdrawals or shifting of forces to prevent their capture or destruction by larger enemy forces, until such time as the position can be reinforced or a counterattack launched by the reserve.

413. REINFORCED ARMORED INFANTRY BATTALION IN THE MOBILE DEFENSE

a. In the mobile defense, the reinforced armored infantry battalion may be used—

(1) To outpost part of the sector assigned to a larger force.

(2) As the reserve (counterattack force) for a larger force (normally a combat command).

b. The reinforced armored infantry battalion is capable of using the mobile defense by itself when operating independently; but a need for this would seldom arise.

Section V. BATTALION PROVIDING THE OUTPOST SYSTEM FOR A LARGER FORCE

414. RECONNAISSANCE OF THE BATTALION SECTOR

As soon as he is given his mission and assigned his sector, the commander of the reinforced armored infantry battalion immediately reconnoiters the sector as completely and thoroughly as time and the

situation permit (par. 355). He makes a map reconnaissance and, if possible, a ground and aerial reconnaissance. He determines the critical terrain features and the avenues of approach available to the enemy. He makes plans to place strong points, composed of tanks and armored infantry, on these terrain features and avenues of approach.

415. TASK ORGANIZATION

a. After completing his reconnaissance and formulating his plan of defense, the battalion commander organizes the battalion into reinforced companies. He designates the company or companies to man the outpost system and the battalion reserve, if any, to reinforce the strong points. In planning the composition of each reinforced company in the outpost system, the battalion commander considers—

(1) The *width of the sector* assigned to the reinforced battalion. If the sector is extensive and if the higher commander has held out a sizable reserve, the battalion commander may assign a sector to each of his reinforced companies, keeping no reserve. If the sector is not so extensive that it takes all his reinforced companies to organize the outpost system, the battalion commander may hold out a small battalion reserve. He uses this reserve to strengthen threatened strong points, but not as a counterattack force. In this situation, the next higher commander would still keep a sizable reserve as the counterattack force. However, if the higher

commander purposefully assigns the reinforced battalion a narrow sector that is easier to defend than other unit sectors, he may require the reinforced battalion commander to furnish his own counterattack force. Then a sizable reserve would be kept by the reinforced battalion commander.

(2) The *routes of tank approach* into the sector.

(3) The *nature of the terrain* in the company sector, to include vegetation, wooded areas, erosion ditches, gullies, ridges, hills, trails, swamps, marshes, streams, and any other features that increase or decrease the defensive qualities of the terrain.

(4) The *amount of supporting fires that can be allotted to the company.*

(5) The *presence of key installations or transportation centers*, like road nets, command posts, and supply installations in the sector to be assigned.

b. In forming his plan of defense the battalion commander decides whether to dispose all of his companies in strong points or to keep a reserve with which to reinforce the outpost system. By the timely reinforcement of a strong point, an enemy attack may be repulsed or a strong base of fire may be established for the counterattack by the combat command or division reserve.

416. ORGANIZATION OF OUTPOST SYSTEM

a. Because of the normally wide frontage to be defended, strong points are organized along key ter-

rain features like ridges, roads, streams, defiles, bridges, and towns. The size and strength of the strong points depend on the importance of the terrain and the approaches that they dominate. They may vary from a tank section and a rifle squad to a reinforced company. Strong points should be organized to stop the enemy at the outpost positions. However, the selection and preparation of alternate and supplementary positions will permit the battalion commander to withdraw or shift outpost forces to other positions to prevent their capture or destruction, or to draw the enemy into areas favorable for counterattack. Some areas within the outpost system may be covered only by observation. Strong points may or may not be mutually supporting by fire, depending on the frontage to be defended and the type of terrain. However, complete coverage of the front is maintained by observation (listening posts).

b. Some areas in the outpost system may have comparatively few enemy avenues of approach; these can be more lightly held than other areas. Should an enemy avenue of approach pass through a defile, the strong point covering it should be strengthened with mine fields, road blocks, and other artificial barriers. The obstacles will delay the enemy force, and may possibly force him to use a different avenue of approach where he will be more vulnerable to a counterattack by the reserve (fig. 73).

417. FIRE PLAN

As soon as the battalion commander has selected the general area of his outpost system, a fire-support

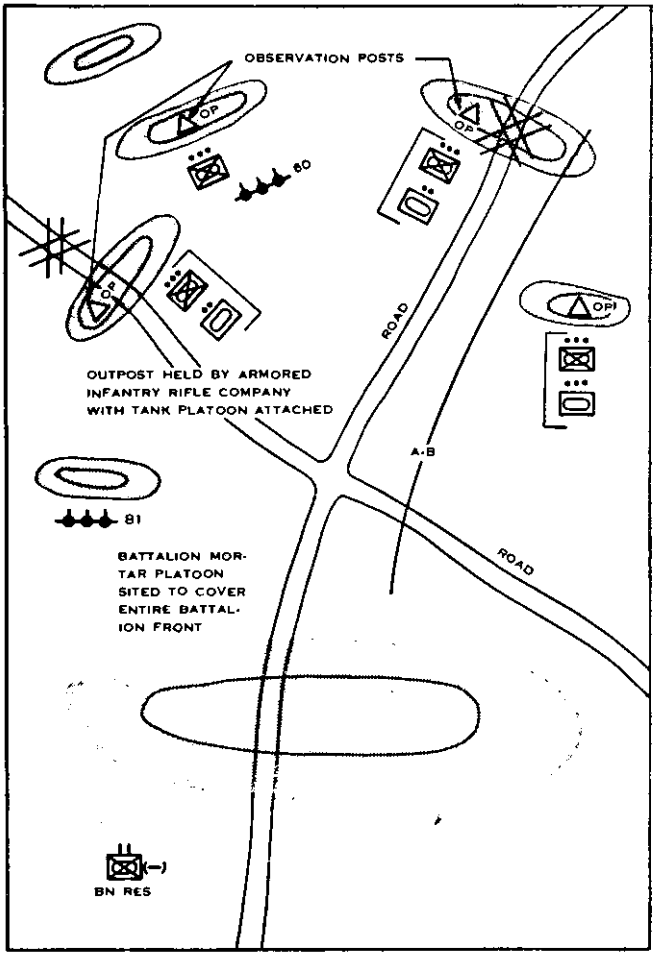


Figure 73. Organization of the outpost system.

plan is prepared to include the fires of artillery, mortars, and all other supporting weapons. Fire support of the mobile defense will include long-range fires usually controlled by the combat command or armored division, close defensive fires for the outpost system, and fires to support the counterattack. The battalion commander in the mobile defense, working with the supporting artillery commanders or liaison officers, will request the supporting fires he needs to accomplish his mission. These requests are coordinated into the fire plan. This plan covers prearranged fires on the avenues of approach most likely to be used by the enemy in an attack and on possible assembly areas and attack positions. Each of the preplanned concentrations is numbered, lettered, or otherwise designated, so that it can be called for easily by any member of the command. These numbered or lettered concentrations also may be used as reference points in designating locations, or for adjusting other fires during the defense.

418. SECURITY IN MOBILE DEFENSE

a. Security in the mobile defense is largely gained by observing and otherwise detecting the enemy. The combat command or higher headquarters may provide additional security by establishing a covering force in front of the outpost system. This covering force may be provided by the reconnaissance battalion.

b. Within the battalion, each of the strong points establishes one or more observation posts during day-

light hours. These posts should be well out in front of the strong points, and should be on terrain features that give excellent observation. They must be able to warn the strong point of enemy activity and of a possible enemy attack. It may be necessary also to safeguard, with daylight patrols, areas not covered by strong points or by observation. Contact is established with adjacent units, and close liaison is maintained with them to keep the battalion fully informed of developments in adjacent areas. At night, listening posts replace observation posts. The listening posts will often occupy different positions than the observation posts. It is often necessary to have patrols operating between strong points during darkness.

c. The battalion should gain and maintain contact with enemy forces in the area, to insure early information of their movement toward the defended area. Army aircraft and the reconnaissance platoon may be used for patroling, to maintain contact with adjacent units, or to establish observation and listening posts.

419. CONDUCT OF MOBILE DEFENSE BY THE BATTALION

a. Tactical air force reconnaissance units and organic liaison planes may give the first indication of an enemy daylight attack. This information should reach the outpost system as soon as possible. When the enemy comes within range he should be immediately brought under fire and kept under fire. When the enemy attack is launched, the strong point or points under attack make every possible effort to

delay, disorganize, and defeat the attacker. If the enemy has attacked in such strength that it appears likely he will penetrate the outpost system, the battalion commander notifies the higher commander, who will alert his reserve for a counterattack. If the battalion commander has a reserve, he will commit that reserve to assist the strong points under attack. If the battalion has no reserve, or if the battalion reserve is not strong enough to stop the attack, elements of the battalion not in contact with the enemy may be moved to contain the enemy force until it is counterattacked by the reserve of the higher command. Deliberate shifting of strong points out of contact and withdrawal of strong points in contact to other prearranged positions channel the enemy's advance into areas favorable for counterattack. If the reinforced armored infantry battalion commander is holding a comparatively narrow sector and has been ordered by the higher commander to keep a strong reserve, he should not use up his reserve in piecemeal strengthening of the strong points, but should keep it intact and commit it at the proper time as a counterattack force (pars. 421–427).

b. Should the enemy force be so strong that to continue to fight would invite destruction, or should an enemy force penetrate the defenses of some other sector, it might be necessary for the battalion or parts of the battalion to give up ground and to withdraw to a previously reconnoitered and selected series of terrain features to the rear. Here the defensive system can be reorganized. It must be emphasized that giving up ground is not done haphazardly by in-

dividual strong points or by companies, but as part of an over-all plan and only on authority of higher headquarters.

420. LOCATION OF BATTALION RESERVE

If the battalion commander forms a reserve, the position selected for it should provide—

a. Accesibility. It should have good routes for rapid movement to the anticipated sectors of employment.

b. Concealment. The position should not be under enemy ground observation, and should offer the best possible concealment from air observation.

c. Dispersion. The position must permit enough dispersion of vehicles to prevent any one bomb or heavy-caliber shell from damaging more than one vehicle.

d. Firm Standing. The position must offer standing that permits free movement of all vehicles in the reserve force.

Section VI. REINFORCED ARMORED INFANTRY BATTALION USING MOBILE DEFENSE WHEN OPERATING INDEPENDENTLY

421. GENERAL

Occasionally a reinforced armored infantry battalion may operate as an independent force. For example, the reinforced battalion may be used alone to seize an objective, after which the battalion may have to hold it until other forces can close up and consolidate the gains that have been made. In such a

situation, the battalion will often use a mobile defense around the objective.

422. ORGANIZATION OF MOBILE DEFENSE BY AN INDEPENDENT BATTALION

a. In organizing the armored infantry battalion for mobile defense the battalion commander carefully studies the terrain; on the basis of that study, he organizes his companies and assigns sectors to them, and forms a strong reserve.

b. The companies assigned defensive sectors organize dominating and critical terrain. They establish their strong points far enough from the center of the defensive area to leave enough room for the battalion reserve to maneuver and for the strong points to make any necessary withdrawals to supplementary positions.

c. Companies assigned defensive sectors normally have extended frontages. To cover their sectors, they organize outpost systems. Normally, they do not hold out supports.

d. Of his available troops, the battalion commander maintains a strong reserve so located that it can move quickly to any part of the defensive system. Detailed plans covering all possible enemy attacks are drawn up to cover the counterattack by the battalion reserve. These plans include the plan of supporting fire, the plan of maneuver, and the necessary details of coordination. The reserve commander gives the plans to his subordinates as early as possible so they have time for study, preparations, and further dissemination. Complete plans permit

the launching of the counterattack with the least delay. The steps considered in the planning of each counterattack are the same as in the attack. The plan of supporting fires for the counterattack is similar to the plan of fire in the attack. The counterattack by the battalion reserve does not advance beyond the effective range of the supporting artillery. However, if the concentration of enemy forces is strong, the artillery plans to displace forward to support a counterattack that might progress beyond artillery range.

423. CONDUCT OF MOBILE DEFENSE BY AN INDEPENDENT BATTALION

a. The conduct of the defense is similar to that described in paragraph 419. The strong points do all in their power to stop an enemy attack. If the outpost system is penetrated or about to be penetrated, the battalion reserve counterattacks. In the counterattack, every effort is made to strike the enemy flanks or rear. Hostile tanks are separated from their accompanying infantry by placing time fire on the advancing enemy formations. Hostile armored infantry is forced to dismount from its personnel carriers when the carriers come under tank gun fire. Once the hostile armored infantry dismounts, time fire is placed over them to separate them from the remaining enemy tanks. The counterattacking force secures its own flanks and rear during the advance. Speed in conducting the counterattack, crushing the opposition, and withdrawing to primary or alternate reserve positions gives the enemy little opportunity to concentrate against the counter-

attacking force (fig. 74). The counterattack is controlled in the same manner as any other attack. If the counterattack is successful and the enemy threat is wiped out, the defensive positions are kept as originally established. If the counterattack is not successful, it may be necessary for the battalion commander to order a limited withdrawal to previously prepared positions nearer the center of the defensive area to regain freedom of fire and maneuver for both the forces in the strong points and the reserve.

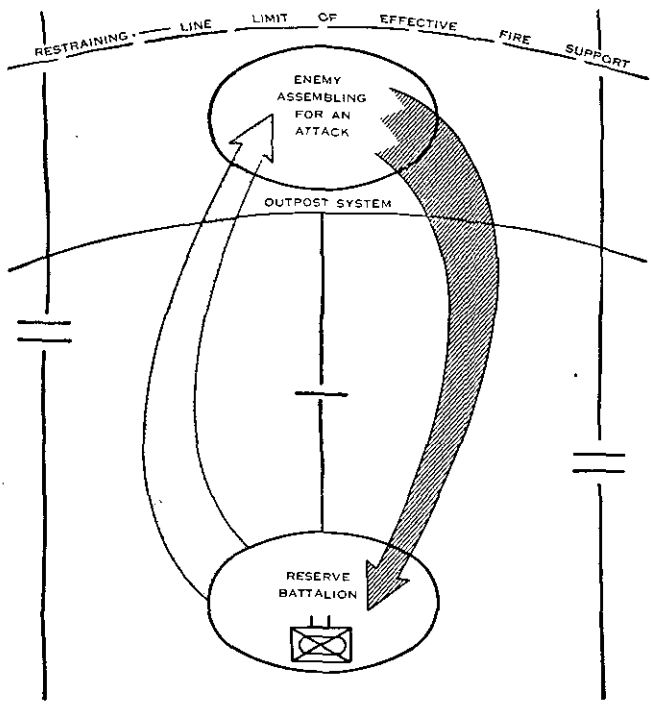


Figure 74. Counterattack in mobile defense.

b. If the enemy force is so strong that it continues to attack successfully, the battalion may have to make a final stand near the center of the defensive area. Here the battalion defense can be tighter and stronger, because the frontages will have narrowed greatly.

Section VII. REINFORCED ARMORED INFANTRY BATTALION AS COMBAT COMMAND RESERVE IN MOBILE DEFENSE

424. GENERAL

The combat command reserve is kept as large as possible, consistent with the frontage assigned and the troops available. The ratio of tanks to armored infantry is as large as possible. This reserve is the weapon of decision available to the combat command commander. The conduct of a successful mobile defense depends on the success attained in the counterattack by the reserve.

425. LOCATION

The factors affecting the location of the combat command reserve are the same as those affecting the battalion reserve (par. 420).

426. COUNTERATTACK PLANS

When the battalion is acting as a reserve for a combat command, plans for the counterattack should be made by the combat commander and staff.

a. The reserve battalion commander prepares detailed counterattack plans to counter all foreseeable enemy advances. These plans are approved by the combat command commander. Approved plans are given to all elements of the combat command to speed the execution of the counterattack. The commander of the reserve battalion gives the counterattack plans to his subordinate commanders as early as possible so they have time for study and preparing their actions. Plans are carefully coordinated with the supporting artillery commander and the commander of any units through whose area the counterattacking force must move.

b. It is not normal for the combat command reserve to counterattack beyond the range of effective artillery support. However, the counterattack goes the distance necessary to attain desirable objectives, and the artillery displaces forward to give uninterrupted fire support. The combat command commanders may designate a restraining line beyond which no counterattacking force will advance without his approval.

427. CONDUCT OF THE COUNTERATTACK

Once launched, the counterattack is conducted as any other attack, in accordance with previously approved plans. Troop-leading procedure is followed as soon as plans are received, thereby reducing the time needed to launch the counterattack when execution is ordered. See paragraphs 207–229 for details on planning and conducting the attack.

CHAPTER 13

RETROGRADE OPERATIONS

Section I. GENERAL

428. DEFINITION AND PURPOSE

a. A retrograde operation is a tactical movement to the rear or away from the enemy and the action taken to cover that movement. It may be forced by the enemy or may be made voluntarily. Types of retrograde operations are—

(1) *Withdrawal*—the action by which a force disengages from the enemy.

(2) *Retirement*—a retrograde movement by which a force seeks to refuse decisive combat under the existing situation by marching away from the enemy.

(3) *Delaying action*—a retrograde movement by which a force seeks to delay the advance of a superior enemy.

b. A retrograde movement is made to—

(1) Disengage from battle.

(2) Avoid battle in a disadvantageous situation.

(3) Draw the enemy into a situation unfavorable to him.

(4) Gain time without fighting a decisive engagement.

(5) Conform to the movement of other troops.

(6) Permit the employment of part of the command elsewhere.

c. For a retrograde order see, section IV, appendix VI.

Section II. DAYLIGHT WITHDRAWAL

429. GENERAL

a. The combat command may be required to break contact with the enemy and withdraw, protected by a general covering force detailed by the higher commander (besides its own covering force), or it may be required to withdraw protected only by its own elements.

b. A front-line armored infantry battalion withdraws from action in daylight by withdrawing each echelon under the protection of the next unit to its rear. Each front-line company withdraws its forward platoons under cover of its support platoon. The front-line platoons withdraw by thinning out their platoon positions. They protect themselves with the fire of automatic weapons which are left to be withdrawn with the last elements.

c. Front-line platoons assemble behind the battalion covering force, which is usually the battalion reserve in prepared positions. The support platoons of front-line companies withdraw under the protection of the battalion reserve. They withdraw similarly to the front-line platoons, and rejoin their companies. If a combat command covering force is established to the rear, the battalion reserve withdraws under its protection. If there is no combat command covering force, elements of the front-line

companies may be placed temporarily in position behind the battalion covering force to cover its withdrawal; otherwise, front-line companies move to a battalion assembly area as soon as assembled. The situation and the terrain govern the withdrawal sequence of the battalion covering force. The battalion thus shoulders its way to the rear until it breaks contact and can re-form.

d. The combat command commander may assign zones of withdrawal and phase lines to control the withdrawal of the forward battalions. When phase lines are designated, the battalion commander locates his assembly area in the vicinity of the first phase line. If phase lines are not used, he designates an assembly area in the first suitable area behind the combat command covering force. Movement from this area to the rear is made as the combat command commander directs.

430. PLANS AND ORDERS OF A FRONT-LINE BATTALION

a. Reconnaissance. A withdrawal by its very nature usually prevents extensive reconnaissance. A battalion staff officer reconnoiters and posts guides to direct the withdrawing elements to the battalion assembly area or the first delaying position. Units reconnoiter routes as well as time permits.

b. Orders. The withdrawal orders of the battalion commander are brief, fragmentary, and oral. They are usually transmitted by staff officers to avoid assembling commanders whose units are engaged with the enemy. The battalion order includes—

(1) Composition and location of the battalion covering force.
(2) Attachments to front-line companies.
(3) Time of withdrawal of each echelon.
(4) Zones or routes of withdrawal for each company.
(5) Location of battalion assembly area (or initial phase line).
(6) Route of withdrawal for the battalion command post and its successive locations.

c. Sequence of Withdrawal. In daylight the battalion usually withdraws in this sequence: aid-station group, headquarters and service company, front-line companies, and reserve company. The front-line rifle companies usually are withdrawn simultaneously, but they may be echeloned in their withdrawal, beginning with the company least engaged.

d. Battalion Supporting Weapons. Supporting weapons located in the areas of forward rifle companies are attached to those companies for the first phase of the withdrawal. The 81-mm mortars cover the withdrawal of the forward elements and may be attached to the covering force.

e. Tanks. Tanks attached to the front-line battalions give maximum fire support to cover the withdrawal of front-line companies. Tanks located within front-line company areas are attached to those companies until the companies have withdrawn behind the battalion covering force. These then may be attached to the battalion covering force or otherwise used to support the withdrawal of the battalion. When the battalion covering force has

withdrawn behind the combat-command covering force, tanks attached to front-line battalions may continue to cover the withdrawal of the battalion. However, they can be regrouped to execute a separate mission or to be attached to the combat-command covering force. Combat command or division commanders may aid a daylight withdrawal by using tanks offensively against enemy personnel. Such reinforced tank battalion attacks relieve pressure on the delaying force, thus helping it to break contact.

f. Vehicles. The plan of withdrawal includes the movement of the carriers and other vehicles to the rear. Whenever possible they are used to aid in the movement of troops to the rear. The withdrawal of vehicles is covered by using smoke to screen enemy observation, or by using heavy concentrations of artillery fire to immobilize the enemy and to help cover the sound of the withdrawing vehicles.

g. Supporting Artillery. Supporting artillery withdraws by echelon, the first units withdrawing after the covering force has broken contact. Centralized control is kept as long as communication remains. The withdrawing battalions request artillery fire through the normal channels.

431. CONDUCT OF THE WITHDRAWAL

Once begun, the withdrawal of a front-line battalion proceeds with all practicable speed to prevent the enemy from taking advantage of the situation. Artillery fires and battalion supporting weapons interdict hostile movement into gaps in the line. They also cover the withdrawal of those elements still in

close contact. Smoke may be fired to assist the withdrawal.

432. COMMUNICATION

The battalion command post, operated by a skeleton crew, remains open in the old location until the forward rifle companies are behind the battalion covering force. All other command post personnel, with communication equipment, move to the battalion assembly area with the first withdrawing echelon of the battalion. There they open the new command post.

433. BATTALION AS A COVERING FORCE

a. An armored infantry battalion acting as the covering force for a combat command stops, delays, or diverts the advance of the enemy. This permits the elements of the combat command that are in contact to disengage, assemble, and move to the rear. The battalion's first position and the length of time it remains there are prescribed by the combat command commander. The battalion may make a limited objective counterattack, which takes advantage of the offensive power of the reinforced armored infantry battalion and is effective in delaying the enemy and disrupting his advance.

b. Tank units are attached to the armored infantry battalion acting as a covering force. The size of the attached tank unit is determined by the presence and strength of hostile armor, the terrain, weather, and the tank strength available to the combat com-

mand commander. A platoon or company of armored engineers may be attached to make demolitions and lay mines behind the covering force as it withdraws.

c. The battalion organizes and defends the covering position as in delaying action.

d. The battalion commander coordinates the long-range fires with those of any other covering force. When its mission is accomplished, the covering force withdraws under cover of the fires of its own weapons and supporting artillery. The covering force then forms the rear guard for the withdrawing forces. When forced by aggressive hostile pursuit it occupies successive delayed positions.

Section III. NIGHT WITHDRAWAL

434. GENERAL

a. A front-line battalion withdraws at night by withdrawing all elements of the battalion simultaneously, less troops left in place as a covering force. The success of the withdrawal depends on careful coordination and secrecy. Troops and weapons are withdrawn and then assembled as quietly as possible. Troops of the covering force, by their fires and patroling, simulate the normal activities of the battalion.

b. Preparatory to a night withdrawal, special tactical measures may be taken to confuse and deceive the enemy. These measures include limited objective attacks, raids, and planned fires.

435. COVERING FORCE

a. The combat command commander may prescribe the strength and composition of the battalion covering force. It usually consists of not more than one-third of the rifle strength of the battalion, and such supporting weapons with skeleton crews as are required.

b. Normally the forward rifle companies leave one squad in place in the defense area of each rifle platoon (fig. 75). As soon as the platoons have been withdrawn, the squad left in place spreads out to cover the most likely enemy approaches and to give close protection to supporting weapons. The squad left in the support platoon area of each front-line company patrols locally and ejects hostile patrols entering the position. One rifle platoon usually remains in place in the battalion reserve area. It patrols, protects the covering force command post, and blocks the more likely avenues of hostile approach into the battalion rear area.

c. Usually one-half or less of the 81-mm mortars or the 60-mm mortars of front-line companies are left in position to fire normal night missions.

d. Hand carried antitank weapons normally defend those avenues of approach that can be used by hostile armored vehicles at night. Under favorable conditions and when the enemy capabilities are known, tank elements remain with the covering force. These tanks usually are kept in the rear portion of the area to add depth to the defense of critical tank approaches.

e. The covering force commander, usually the battalion executive officer, takes over the battalion com-

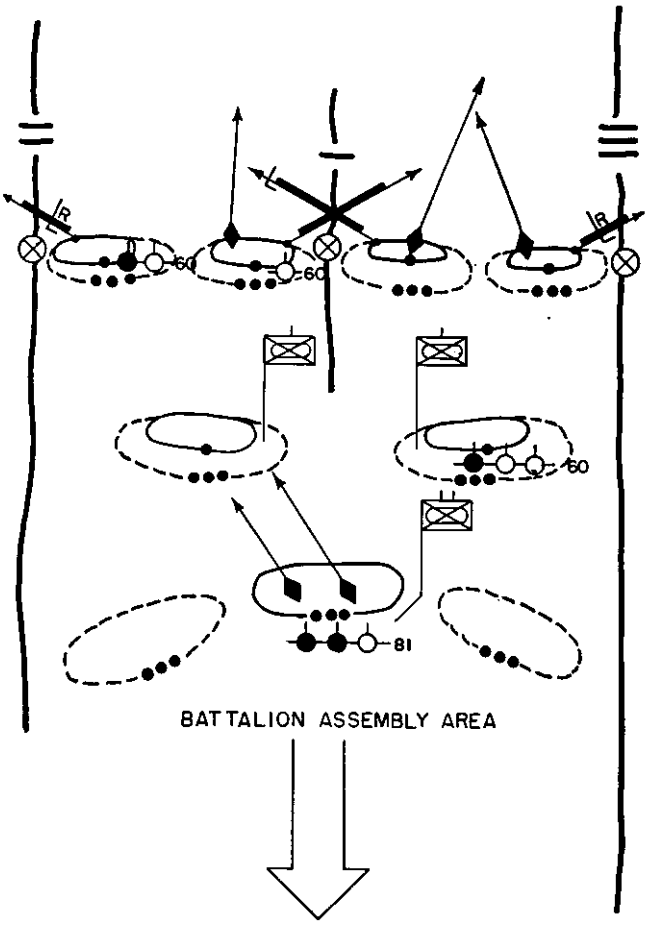


Figure 75. A front-line battalion in night withdrawal (schematic). Elements shown by solid symbols constitute the battalion covering force.

mand post location. He has a skeleton operating crew, messengers, and the necessary wire and radio communication facilities. The battalion order designates the medical personnel to remain with the covering force. Each battalion leaves part of its aid station group in place.

436. RECONNAISSANCE

If practicable, all units reconnoiter routes to their assembly areas during daylight. The reconnaissance platoon may be used to make this reconnaissance and guide the units. If the battalion is to organize and occupy a rear position after the withdrawal, the reconnaissance includes the rear position. Each company posts guides. To preserve secrecy, reconnaissance groups are limited in number and size.

437. ORDERS

As soon as the decision to withdraw is known, warning orders are issued to company commanders. Commanders whose units are in contact with the enemy are not assembled to receive orders. Such orders, as well as the details of the orders to be issued later, are given through messengers, staff officers, or by the battalion commander in person. Orders are not sent by wire if there is any possibility of hostile wire tapping. Withdrawal orders are not sent by radio except in case of extreme emergency.

438. CONDUCT OF THE WITHDRAWAL

a. Platoons withdraw to the rear where they assemble and move to their company assembly areas.

The arrival of platoons is timed and coordinated to prevent waiting. Upon assembly, each company moves directly to the battalion assembly area or directly to the initial point for continued movement to the rear.

b. The withdrawal of the tanks and carriers is screened by increased artillery and mortar fire. Vehicle assembly areas are located as close to company positions as the tactical situation permits. The withdrawal is made dismounted to the vehicle assembly area where personnel mount. Further withdrawal is made as a tactical march to the rear. A rear guard of tanks and armored infantry protect the withdrawing units.

439. SECURITY

The covering force provides the main security for the battalion's withdrawal. The battalion commander orders any additional close-in security for the battalion as it moves to its rear position or assembly area. Elements using separate routes of withdrawal provide their own close-in security. After the battalion has reached its position or rejoined the combat command, the combat command commander directs security measures.

440. COMMUNICATION

a. The battalion command post remains open in its old location until the battalion (less the covering force) leaves the assembly area. The battalion order gives the time of displacement, route of movement, and new location of the command post. For pur-

poses of deception, the covering force maintains normal radio traffic and other activity. Upon its withdrawal it cuts wire circuit and removes some of the wire to prevent use by the enemy.

b. During the movement of the battalion from its assembly area to the rear, the battalion command post is with the march column. During the withdrawal, radio communication is silenced in the new position and normal traffic is maintained in the old position for purposes of deception.

441. WITHDRAWAL OF COVERING FORCE

The combat command order specifies the time and route of withdrawal and the assembly areas of the covering force. If a rear position is to be occupied, the covering force is usually withdrawn in time to be under protection of the outpost covering the rear position by daylight. Elements of the battalion covering force usually withdraw simultaneously. The battalion covering force commander protects the movement to the rear by detailing security groups. He is responsible for the protection of his assembly area.

Section IV. DELAYING ACTION

442. GENERAL

A delaying action gains time while avoiding decisive action. An advancing enemy may be delayed by offensive action, by defensive action in one position, by delaying action in successive positions, or by a combination of these methods. The assigned missions, relative strengths, and the terrain dictate the

methods used. The dispositions and conduct of the delaying force vary with the methods of delaying action contemplated. A delaying force consists of security elements, a series of supports, and a reserve. The characteristics of the reinforced armored infantry battalion especially qualify it for delaying actions.

443. DELAYING ACTION IN SUCCESSIVE POSITIONS AS PART OF A LARGER FORCE IN OPEN TERRAIN

a. General. When operating as a part of a larger force, the battalion is assigned a sector on the first delaying position and a zone or routes of withdrawal. When practicable, the line of resistance formed by the supports is near a topographical crest to allow long-range observation and fields of fire and provide immediate defilade for withdrawal to the next delaying position.

b. Frontages. Units may conduct delaying action on wide frontages.

c. Security. A delaying force establishes and maintains its own security. Security elements forward of the supports normally consist of outguards, sentinels, and patrols.

d. Supports. The battalion occupies the extended frontages by placing more platoons on the line of outposts and by leaving greater intervals between platoons than in a sustained defense on similar terrain. If their flanks are secure, rifle companies assigned to the line of outposts may occupy their defense areas with three platoons abreast. Intervals between individuals and squads are not increased.

e. Reserve. Besides accomplishing the missions of the reserve within a battle position, the reserve of a delaying force forms the covering force in a daylight withdrawal. The mission of the delaying force determines the strength of the reserve. If the battalion is to hold the position for a given period of time, the reserve may be as large as a rifle company reinforced. Then the reserve is held mobile to reinforce any threatened area. If the mission is to delay the enemy advance but withdraw before accepting close combat, the reserve may be small.

f. Distribution of Weapons. Initially all weapons are placed well forward; 81-mm mortars may be located in the first defiladed area behind the line of resistance. If practicable, tanks are located near topographical crests. Tanks may move laterally to threatened areas. Weapons that are to be withdrawn with rifle uits are attached to those units. To aid in the withdrawal, company vehicles are kept as close as practicable to their squads. Ammunition is kept on vehicles; only that needed for immediate missions is placed at the gun positions.

g. Conduct of Delaying Action.

(1) A battalion commander uses obstacles and long-range fires to force the enemy off roads and slow down his advance, to stop the advance of leading enemy elements, and to force the enemy into time-consuming preparations for attack. Mines and demolitions are used extensively to block roads and defiles. Supporting weapons (machine guns, mortars, and artillery) fire at maxi-

mum effective range; riflemen and automatic riflemen open fire at long range.

(2) Tanks aid the infantry in delaying action by direct fire from hull defilade, by quick direct thrusts into the advancing enemy, or by surprise flank attacks across the enemy's routes of advance. Tank attacks are supported by all available fires. They may be assigned a mission of attacking a hostile force before it can endanger the withdrawing elements of the delaying force. When not on an offensive mission, tanks are placed in, or behind firing positions from which they can engage the enemy with long-range fires. Orders designate tank objectives and contain necessary details for coordination and cooperation between the armored infantry and tanks. The armored infantry weapons and the artillery neutralize hostile antitank weapons during the tank attacks (fig. 76).

h. Withdrawal.

(1) The withdrawal of the delaying force is conducted as discussed for daylight or night withdrawals. The withdrawal of its main elements may begin on order of the commander of the delaying force or on prearranged schedule. The delaying force commander coordinates the withdrawal of the various elements of his force. If the mission permits, the delaying force commander orders the withdrawal before the enemy can build up enough strength on a

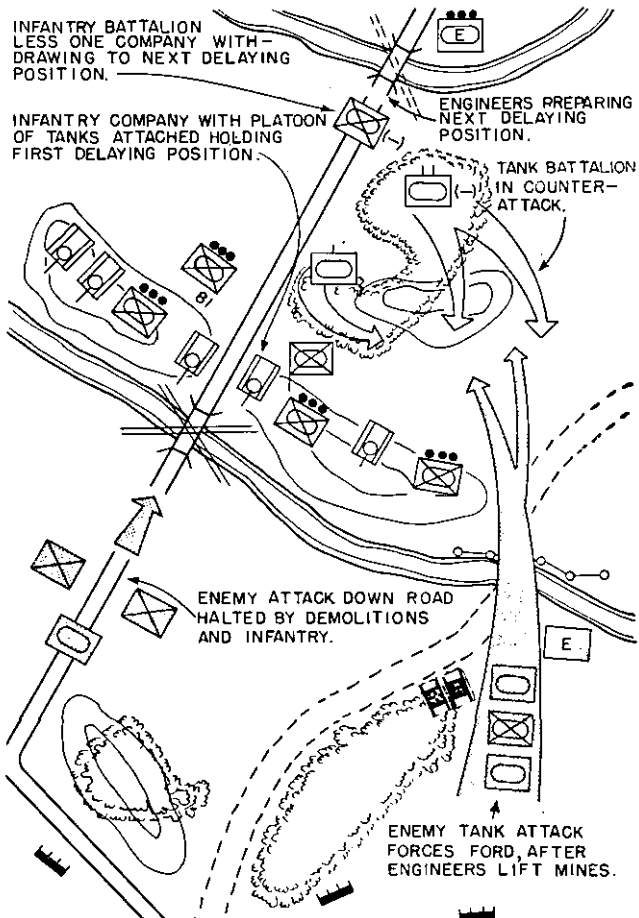


Figure 76. Conduct of delaying action.

position to launch a decisive attack. Forward units withdraw along designated and previously reconnoitered routes to company assembly areas. The withdrawal to the next delaying position may be either by battalion or by companies. Companies may be moved by separate routes if the road net is adequate.

(2) The covering force protects the first withdrawal of the main elements to the next delaying position. The covering force is the rear guard for the main elements as long as the enemy maintains direct pressure, or until it withdraws through the security elements for the next established delaying position. Normally, the covering force organizes intermediate positions covering defiles, road blocks, demolitions, or terrain permitting delay by small units. Additional units may be attached to the covering force for this purpose.

i. Action on Rear Delaying Positions. The battalion commander initiates early reconnaissance of successive delaying positions and routes of withdrawal. The occupation of successive positions and the action on these positions are similar to the occupation of and action on the first delaying position.

j. Supply and Evacuation.

(1) Ammunition, except that needed for immediate use, is kept on vehicles of units in the delaying force. Limited additional stocks may be placed along withdrawal

routes or on future delaying positions, but excess amounts are not placed, to avoid any need for destruction.

(2) Prompt evacuation of casualties is essential. They are evacuated as they occur. Aid stations are evacuated before withdrawal. Combat vehicles and soldiers may be assigned to aid in evacuation.

k. Communication. The battalion command post's first location is like that of a front-line battalion in defense. The command post stays open until the forward units have begun their withdrawal. It then marches with the battalion or, if companies are ordered to withdraw by separate routes, with one of the companies.

444. INDEPENDENT DELAYING ACTION IN SUCCESSIVE POSITIONS IN OPEN TERRAIN

When a battalion executes an independent delaying action, its disposition and conduct conform generally to the principles in paragraph 443. When the enemy has freedom of action, the battalion protects its flanks from attack or encirclement by using active flank security, organization in depth, keeping a mobile reserve, and detailed reconnaissance of the terrain. Attached reconnaissance elements, tanks, and air observation are used. Reinforced companies and supporting weapons are distributed, a covering force is constituted, and the battalion withdraws as in a withdrawal. If the enemy makes a coordinated attack in superior strength, the battalion ordinarily withdraws without accepting close combat. The

withdrawal to the next delaying position begins before enemy small-arms fire becomes effective, usually about 500 yards. When the mission and situation permit, defense of the first position, or of any later position, is prolonged to take advantage of darkness in the withdrawal.

445. DELAYING ACTION IN SUCCESSIVE POSITIONS IN CLOSE TERRAIN

a. In close terrain, when operating as part of a larger force, the battalion usually is given the mission of delaying on one or more avenues of hostile advance. To assure coordination and periodic resumption of his control, the combat command commander prescribes successive rear positions to be reached at stated times. In other respects, the action of the battalion is independent.

b. In close terrain, lack of observation makes coordination and control more difficult, but surprise is easier. In densely wooden areas, the action occurs mainly on or near trails. Delay is caused by surprise fire from concealed riflemen and automatic weapons. These are placed to sweep trails and roads or to deliver flanking fire upon them. They are best located in areas where it is difficult for the enemy to leave the roads or trails, and where he must make time-consuming detours to outflank the defenders. Local attacks against the hostile flanks are also used where conditions are favorable.

c. The mission of the delaying force is to retard the advance of the enemy without accepting decisive combat. However, time and space factors may make

it necessary for the delaying force to accept close combat in order to accomplish their mission.

446. ARTILLERY SUPPORT

The artillery is placed immediately behind the first delaying position to permit long-range fires. If a daylight withdrawal is expected, these weapons are disposed in depth with some behind the next position. Each delaying position is located to provide ground observation. When close support by artillery under combat command control is impracticable, one or more batteries of artillery may be attached to the battalion. Whether attached or in support, the heavy mortars and artillery help delay the enemy by long-range fires, and provide close support during the withdrawal of all elements of the battalion.

447. DELAY IN ONE POSITION

The mission and terrain may require that the enemy be delayed from one position. It may be necessary to accept close combat from this one position. If so, it is organized more thoroughly than those in a series of delaying positions; it has greater depth and more reserves. A line of outposts is selected and the position organized. From it the action is conducted to disorganize the enemy and delay his advance. If the battalion withdraws with the enemy in close contact, it follows the principles for withdrawal of a front-line battalion. The battalion delays from a single position only when successive positions cannot be used.

Section V. RETIREMENT

448. GENERAL

A retirement may follow a withdrawal from action. It begins when contact with the enemy is completely broken. The movement then becomes a tactical march to the rear. The mission and employment of an armored infantry battalion are generally the same as in other marches.

PART FOUR

OTHER OPERATIONS

CHAPTER 14

NIGHT OPERATIONS

449. GENERAL

a. For general principles governing night operations see FM 100–5. For employment of tanks at night see FM 17–32.

b. This chapter deals with the coordinated attack of a strongly defended position during reduced visibility. The techniques described may be used for other night operations with such modifications as are indicated by the mission, type of resistance, time available, and other variables. Other night operations with some of the characteristics of a coordinated night attack are patrols, raids, infiltrations, and advances at night against discontinuous resistance (see exploitation).

450. PURPOSE OF NIGHT ATTACKS

A battalion may make a night attack for one or more of the following purposes:

a. To avoid heavy losses that would result from attacks in daylight.

b. To combine with day attacks to complete or exploit a success, gain important terrain for further

operations, and prevent the enemy from improving his defenses.

c. To deceive the enemy and capitalize on the surprise inherent in night combat.

451. CHARACTERISTICS

a. Night combat is generally characterized by a decrease in the effectiveness of aimed fire; by a corresponding increase in the importance of close combat; by the fire of fixed weapons laid on definite targets or areas by day; and by difficulty in movement, in troop leading, and in maintaining control, direction, and contact.

b. Simplicity, secrecy, and surprise are particularly important. Night attacks against organized resistance require detailed and careful planning, and precision and coordination in execution. Secrecy and surprise are essential to conduct a night attack with minimum casualties. Simplicity of plan aids in surprise. If surprise is lost, the plan should provide for the fire, maneuver, and shock action necessary to seize the objective. The objective should be easily identifiable at night and small enough to be captured in a single assault. Because of the difficulties of reorganization at night, to capture more than one objective by a unit usually is not feasible.

452. ILLUMINATION, GENERAL

Night attacks may be classified as illuminated and non-illuminated. The terrain, the tactical situation, the experience of the troops, and the availability of equipment determine whether illumination is used.

When illumination other than indirect lighting by searchlights is used during a night attack, the attacker may sacrifice much of the secrecy of movement ordinarily gained at night, and he may disclose his intention of making the attack. However, a skillful use of battlefield illumination devices over a period of time may assist in the cover plan for deceiving the enemy as to the exact location of the real attack. The cover plan may include the extension of the illuminated area to a considerable distance on both flanks, so as not to disclose the exact area of the attack.

453. NON-ILLUMINATED NIGHT ATTACK

A non-illuminated night attack is one made under concealment of darkness. Such a night attack cannot go deeply into the hostile position because of the difficulty of maintaining control and direction in darkness. The objective assigned should be a specific area or terrain feature close to the hostile front, and of such width and depth that it can be captured in a single assault by the force making the night attack. It should be well defined and easily recognizable at night. Daylight observation of the objective and of the terrain leading to it is essential. Direction in the attack is maintained by following existing features like roads, fences, hedges, pole lines; improvised directional aids like engineer tape, telephone wire; or electronic devices. Non-illuminated night attacks, usually unsupported, are made when considerations of secrecy are paramount.

454. ILLUMINATED NIGHT ATTACK

An illuminated night attack is one made with artificial illumination. The battlefield may be illuminated by searchlights, by flares, or by a combination of the two. When an illuminated night attack is made with a visibility approximating daylight, the principles of daylight operation apply and the attack may be made deeper into the enemy position than in a non-illuminated attack. In other situations, it may be desirable to maintain maximum secrecy in the assault of the initial objective, by using a non-illuminated attack. The continuation of the attack to following objectives may be made by using illumination.

455. AREA ILLUMINATED BY SEARCHLIGHT

An area illumination by searchlight is of two types: direct light and indirect light.

a. When used for direct lighting, searchlights are placed where the light beams can shine directly on the target area. The intensity obtained on the target area varies according to the range, the number of searchlights, the atmospheric conditions, and the presence of smoke and dust. Under good conditions the visibility approximates daylight. This method is normally used for target designation, adjustment of fire, observation of an area, blinding effect on the enemy, and deception. Direct lighting by searchlights is not practicable in all situations or for prolonged periods because the enemy reaction is immediate, requiring early displacement of the searchlights.

b. When used for indirect lighting, searchlights are placed in defiladed positions, and the light is obtained either by reflection from the clouds or by diffusion of the beams. The factors governing the intensity of direct light also affect the intensity of indirect light. Under good conditions, indirect light intensity will be approximately that of a half moon. Indirect lighting is normally used to aid movement to assembly areas and attack positions, movement forward for the line of departure, observation and control of the attack, and movement of reserves and supplies. If the searchlights are placed in defiladed positions, this method of lighting can be used for relatively long periods of time. This form of illumination is often referred to as *artificial moonlight.*

456. AREA ILLUMINATED BY FLARES

When the area is illuminated by flares, the flares may be fired by ground projectors, rifle grenade launchers, mortars, artillery and naval guns, or they may be dropped from aircraft. The intensity of light depends on the type, size, and number of flares used. When parachute type flares are used, particular attention must be given to wind velocity and direction to prevent the flares drifting above or behind the attacker, thereby giving the defender a distinct advantage. Parachute flares are usually placed over or behind the hostile position to outline the position to the assault troops. Many flares are necessary to provide continuous illumination.

457. SUPPORTED NIGHT ATTACK

A supported night attack is one that uses supporting fires before, during, and after the attack. Such a night attack, either non-illuminated or illuminated, may be made by the battalion against a well organized position when the possibility of surprise is remote. Supporting weapons of battalion and the artillery are generally used for preparation fires before the attack, supporting fires during the attack, and protective fires during and after the attack. Preparatory and supporting fires are used as in any other attack. The protective fires isolate the objective and prevent or limit hostile counterattack. All these fires are normally coordinated with other planned fires throughout the area. Secrecy as to the exact location, direction, and time of the attack is maintained.

458. UNSUPPORTED NIGHT ATTACK

a. An unsupported night attack is one where the assault unit advances within assaulting distance of the objective without the aid of supporting fires. Such a night attack, either illuminated or non-illuminated, may be used by the battalion when there is a probability of gaining complete surprise. Unsupported night attacks are ordinarily used against hastily prepared positions, when there is a strong likelihood that the outer defenses of the position can be quietly bypassed or eliminated. In this type of night attack, preparation fires are not used at all.

b. Supporting and protective fires are planned similar to a supported night attack, but these fires are

withheld until the attack is discovered by the enemy. In some situations, all supporting fires may be eliminated. Once the assault on the objective begins, the planned protective fires are used as in a supported night attack to isolate the objective and to prevent or to limit hostile counterattack. Secrecy in movements forward of the line of departure is essential in this attack. Unless the attack has already been discovered, small groups encountered are disposed of by silent weapons.

459. RECONNAISSANCE AND OTHER PREPARATORY ACTIONS

a. The preparations made by the battalion commander for a night attack against an organized position include:

(1) Determination of the tank and rifle strength of the assault echelon and the time of attack.

(2) Selection of the assembly area and arrangements for its occupation.

(3) Prompt issuance of warning orders stating the nature of the operation, the amount and type of reconnaissance to be made by staff officers and commanders, the time for the submission of recommendations from these commanders, and the time and place to report for orders.

(4) Determination of the limits of the objective and the most suitable approaches to it.

(5) The formation of the assault echelon; and the location of the attack positions, the line of departure, the probable line of deployment, the company release point, the exact

lateral limits of each company's objective, and the limit of advance.

(6) Reconnaissance and marking of the routes between the assembly area and the attack position.

(7) Coordination with friendly troops near the attack position and line of departure. Instructions for creating gaps in the front lines for passage of troops.

(8) Requests for illumination and supporting fires if the attack is to be illuminated and supported.

(9) Reconnaissance and planning to insure the prompt completion of these details.

b. Daylight reconnaissance by all leaders is highly desirable in any night operations, and is essential in a night attack against a well-organized defensive position. It is supplemented by reconnaissance patrols during darkness, and by the study of maps and aerial photographs. Aerial photographs of the area should be distributed to each company. All reconnaissance is made with due regard for secrecy. During daylight, reconnaissance of terrain not held by friendly troops is usually limited to observation from the air and from friendly front lines. Often the only means of securing detailed information of the terrain in the zone of action, as well as of the location and strength of hostile outguards and listening posts, is by night patrolling. The members of these patrols may later be used in frontal and flank security detachments. Detachments may be used to mark routes forward of the line of departure, to mark the probable line of deployment, and to provide guides for

lower units for their movement from the line of departure of the probable line of deployment. Maximum effort is made to locate enemy mine fields and plans are made to breach these and other obstacles before the attack. Supporting or attached engineers, or the pioneer and ammunition platoon may be used for this purpose. The battalion commander defines to company commanders the area each company is to patrol and the information required; he may also prescribe the number of patrols, their size, and other details.

460. PLAN OF ATTACK

The plan for a night attack against an organized enemy position goes into greater detail than one for a daylight attack. Besides the normal plans of maneuver and supporting fires, detailed measures are prescribed to insure coordination and control between assault and supporting elements, and to maintain security, secrecy, and communication. Provisions are made for every eventuality that can be foreseen. For details normally contained in a battalion night attack order, see section V, appendix VI.

a. The battalion is moved to an *assembly area* that provides secrecy and eases reconnaissance and other preparatory measures. Here plans are coordinated and final orders issued; troops rest, eat, and are briefed; and extra ammunition and special equipment are distributed.

b. Control during *movement* in darkness is aided by column formations with minimum distances, and by connecting files. Roads, fences, stream lines, and similiar terrain features are designated as directional

guides and as boundaries. Artificial aids to keeping direction are telephone wires, tapes, flares, tracers and other fires, and electronic devices. Magnetic azimuths are designated. Each commander moves at the head of his column, and an officer or noncommissioned officer moves at the rear.

c. Security is maintained by security detachments to the front and flank. Patrols gather information until shortly before the time for the attack. Then security detachments move to their previously selected and reconnoitered positions to protect the advance of the assault companies. These detachments destroy enemy outposts and patrols. Additional security forces precede the assault echelon at such distances as to be visible to the lead assault unit commanders. If practicable, security detachments include men who speak the enemy language. The size, number, and disposition of security detachments depend on the enemy, the terrain, and the visibility.

d. In a night attack, surprise is obtained chiefly through *secrecy*. Measures to get secrecy include:

(1) Restricting the size and activities of parties engaged in reconnaissance and other preparations.

(2) Periodically firing concentrations in other areas.

(3) Illuminating other areas to mislead the enemy.

(4) Attacking at an unexpected hour from an unexpected direction.

(5) Keeping rifles loaded and locked during the movement, and allowing firing only on order of designated leaders.

(6) Prohibiting smoking, use of lights, talking (except whispered passing of orders or instructions), and the use of shiny or noisy equipment.
(7) Using silent weapons during the advance and attack.
(8) Darkening faces and hands.
(9) Using a slow rate of advance from the line of departure, so that the entire unit can move in silence and keep contact between men.
(10) Using patrols to destroy enemy listening posts and outguards just before the assault forces reach their location.

e. Means of *identification* for all personnel during darkness are prescribed. These are included in the battalion commander's instructions so that any man moving to the objective before daylight can be identified. Standard items of issue such as luminous buttons, wands, and tape may be used. The means prescribed must be readily available to all men, inconspicuous but easily recognized within a few yards. A white cloth arm band around each upper arm is suitable. Words or noises, such as a challenge and password, given in a low tone without hissing, are valuable. Distinctive markings for officers and noncommissioned officers may be prescribed and are desirable.

f. The decision whether to use *tanks* in the assault echelon at night is made with due consideration of their noise and restricted visibility. Their use in the assault echelon is most frequent when attacks are executed under natural or artificial illumination. If

tanks do not accompany the assault rifle units, their fires are used in the planned fire support and then the tanks join the riflemen on the objective after it has been secured—or just before daylight. Night attacks offer tanks one important advantage—the protection of darkness against long-range antitank weapons. At the same time, however, night attack makes tanks more vulnerable to enemy close-in antitank measures. Accompanying armored infantry is especially alert at night to anticipate short-range antitank measures and to protect the tanks from them.

g. If *illumination* is used during the night attack, the plan of attack conforms to the degree of visibility. When an illuminated attack is made, the battalion commander insures that the illumination is controlled. The illumination plan is coordinated with the battalion plan of attack. When the illumination is by mortar and artillery flares, liaison agents and forward observers of such units provide control. If flares are dropped by aircraft, control measures are arranged with the air unit making the flight. When the illumination is by searchlight, the searchlight units provided by the engineer searchlight battalion are placed under operational control of either the armored division artillery or the combat command.

h. Command and communication facilities are coordinated during the planning phase.

(1) The battalion command post usually remains behind the line of departure until the objective is taken. The battalion commander, designated staff officers, and messengers may follow the base unit of the

assault echelon. A communication party, with wire, radio, and pyrotechnic signals, moves with the commander's echelon.

(2) Wire is usually laid between the assault companies and the battalion command post by wire parties closely following the advance. To preserve secrecy, wire communication is preferable during the movement from the line of departure to the line of deployment. Alternate means, such as radio and pyrotechnic signals, are planned and are used if necessary. Whether to use such alternate means before the assault, or upon the discovery of the attack, is the commander's decision. All commanders should be familiar with the signals being used for the attack. This includes signals calling for and lifting supporting and protective fires, and for reporting the seizure of the objective. Electronic devices may be used for guiding troops to the objective or for assembling units that have lost control.

461. PLAN OF MANEUVER

a. Extent of Maneuver. The amount of maneuver possible during the attack depends on the objective and the visibility. In non-illuminated night attacks, or in attacks with only limited illumination, the control difficulties of trying to change direction and the possibility of mistaken identity, restrict maneuver. Such attacks are made in one direction and in a relatively close formation.

b. Movement After Crossing Line of Departure. The attack may or may not be frontal against the enemy defenses. If possible, the assault echelon moves to a secured attack position that will aid in the attack of enemy weakness. However, after crossing the line of departure, all movement in darkness is made directly toward the objective without any changes in direction (fig. 77).

c. Objective and Strength of Assault Echelon. Although the battalion objective is assigned by combat command, the battalion commander determines its exact width on the ground. The width in turn determines the strength assigned to the assault echelon. When the objective requires that the assault be made by more than one company, the battalion commander assigns specific portions of the objective to each assault company.

d. Time of Attack.

(1) When a general attack is to be continued at daylight, a night attack may be made after midnight to deny the enemy time to organize an effective counterattack. The attack should begin early enough to complete the capture of the objective and to allow for reorganization before daylight. In determining the time of attack, the possibility of unforseen delays is considered.

(2) When the mission is to capture, organize, and defend an objective, the battalion usually attacks as soon after dark as information of hostile night dispositions is obtained and the battalion is ready. An attack may be launched soon after dark to strike the enemy

Figure 77. Tank-armored infantry team in a supported night attack.

when he is attempting to organize or reinforce his position, or when enemy operations, either attack or withdrawal, are expected.

(3) No set rule for determining the time of attack can be followed. To obtain surprise, a time unpredictable to the enemy should be designated.

e. Formation.

(1) The battalion commander prescribes the formation of the assault companies. Under ordinary conditions, the formation for the movement to the company release point is a column of companies. Assault companies usually cross the line of departure abreast in columns of platoons. If visibility is such that control can be readily maintained, and the objective is close to the line of departure, or if early contact with the enemy is expected, it may be desirable to advance from the line of departure in a line of platoon columns. Intervals between company columns are such that units may be further deployed when necessary. The assault echelon changes its formations at successive release points or when deployment is forced by enemy action.

(2) The battalion commander maintains a reserve, usually at least one company, to support the position against hostile counterattacks. The reserve rifle company may be used to replace either assault company in position until the attack is launched. Thereafter, the reserve company is used

against the objective only if visibility and information of the assault echelon and the enemy permit. Where the distance from the line of departure to the objective is not great, or where visibility does not permit effective maneuver, the reserve is usually held behind the line of departure until after the objective has been captured. By daylight the reserve must be within reinforcing distances of the troops on the captured objective. Elements of the reserve may be used to mop up enemy groups left behind the assault echelon.

f. Line of Departure. The line of departure must be under control of friendly troops, easily identifiable at night, and approximately perpendicular to the direction of advance. If no terrain feature can be found that fulfills these requirements, the line may be indicated by tape or other improvised means. The ideal situation is to make the line of departure the forward edge of the attack position.

g. Attack Position. If practicable, an attack position is selected that can contain the assault echelon in the exact formation to be used in crossing the line of departure. It should be easily recognized or marked unmistakably. From this area control measures and directions are verified and security detachments are moved into position. The selected area should have a minimum of obstacles and should be on the axis of advance immediately behind the line of departure. Defilade from flat trajectory fire is desirable but not essential, as darkness provides concealment and the assault troops are there for a min-

imum of time. Open terrain is preferable to terrain covered with vegetation, unless there is a high degree of visibility. Positive control measures are used during the movement to the attack position in order to minimize confusion, loss of direction, and loss of secrecy. Such measures may include the use of guides, the use of clearly defined routes, and the use of marking devices. Ordinarily the movement from the assembly area to the attack position is made under battalion control. However, when the formation for the attack or the choice of separate company attack positions requires it, control may be decentralized to company commanders.

h. Method and Rate of Advance.

(1) The battalion commander times the rate of advance of the assault echelon to give a simultaneous assault on the objective by the leading companies. Night attacks made over difficult terrain may require the companies to cross the line of departure on a staggered time schedule to insure their reaching the objective together. Carriers are not used forward of the line of departure in a supported night attack and are not used forward of the assembly area when stealth is required. When tanks are used in the assault echelon, the armored infantry may ride tanks to the line of deployment. During the advance, leaders and commanders are constantly alert to insure close control over the movement. The battalion commander may prescribe that halts be made at phase lines—usually at well defined

terrain features—or on a time schedule. At halts, leaders verify direction and contact and alinement with the base unit. The battalion commander may prescribe that the advance be resumed only on his order. If this is done, the order is transmitted from the base unit by messengers or passed through from column to column.

(2) In an unsupported, non-illuminated night attack, the rate of advance is normally slow because of the need for stealth. The rate of advance depends on the visibility and the terrain. Control and maintenance of direction is more difficult in this type of night attack.

(3) In a supported night attack, either illuminated or non-illuminated, surprise is gained by the time and direction of attack; stealth is normally subordinated to speed in the advance. The assault on the final objective is made as quickly as possible.

i. Probable Line of Deployment. The probable line of deployment is a line on which the commander desires to complete deployment for the assault of the objective. It is the assault position in a night attack. It must be a terrain feature definitely recognizable at night and within assaulting distance of the objective. This distance varies according to the type of position being assaulted, the type and intensity of the supporting fires preceding the assault, the expected hostile reaction, and the terrain. When no suitable natural line of deployment is available, a line may be marked by guides using improvised means, or equip-

ment such as luminous buttons or infrared equipment. The use of release points and a probable line of deployment assist the assault echelon in covering the objective uniformly.

j. Limit of Advance. To retain control and to prevent the assault echelon from being endangered by friendly protective fires, the battalion commander establishes a limit of advance both in depth and to the flanks of the objective beyond which troops do not advance. This limit should follow terrain features that are recognizable at night. Protective fires planned just beyond this limit isolate the objective.

462. PLAN OF SUPPORTING FIRES

a. Supporting fires may be delivered on a time schedule, on a prearranged signal, or on call. All prearranged fires of direct fire weapons are coordinated with the fires of the mortars and artillery. Positions for supporting weapons are reconnoitered and marked and firing data prepared during daylight. Weapons that must be moved are emplaced under cover of darkness.

b. The fires of the mortar platoon of the assault battalion, of attached tanks, and of other supporting weapons must be availabe shortly after the capture of the objective. Direct-fire weapons that can be hand-carried may follow the assault echelon by bounds, but should not be so close that they become involved in the assault. The decision to move them this way depends on the visibility, the terrain, and the expected enemy action. When the distance to the objective is short or when conditions are unfavorable for movement directly behind the assault echelon, the

supporting elements are left behind the line of departure to be brought forward by guides after the objective has been captured. In such cases, if the supporting weapons are used to provide protective fire for the assaulting force, they should normally be placed in suitable positions to deliver protective fires on the flanks.

c. The movement forward after the capture of the objective is rapid and may be made mounted or dismounted. The control of such a movement is difficult and must be planned in detail.

d. Battalion mortars and other indirect fire weapons are normally displaced when the advance into the enemy position is so deep that their fires would become ineffective. When elements of the battalion making the night attack are to continue the attack at dawn, these indirect fire weapons may be displaced to positions to support the daylight attack. When such displacement is necessary, the weapons are moved by echelon to avoid interruption in their prearranged protective fires. In illuminated night attacks with light approximating daylight, supporting weapons are used as in daylight operations.

463. CONDUCT OF THE ATTACK

a. Advancement to Line of Deployment.

(1) *General.* Except in highly illuminated attacks or when tanks are used in the assault, the advance beyond the line of departure is made in compact columns until close to the enemy, unless deployment is forced by enemy action. A silent, stealthy attack is essential to secrecy. When the assault units

reach the successive release points behind their assigned portion of the line of deployment, they leave the column formation and

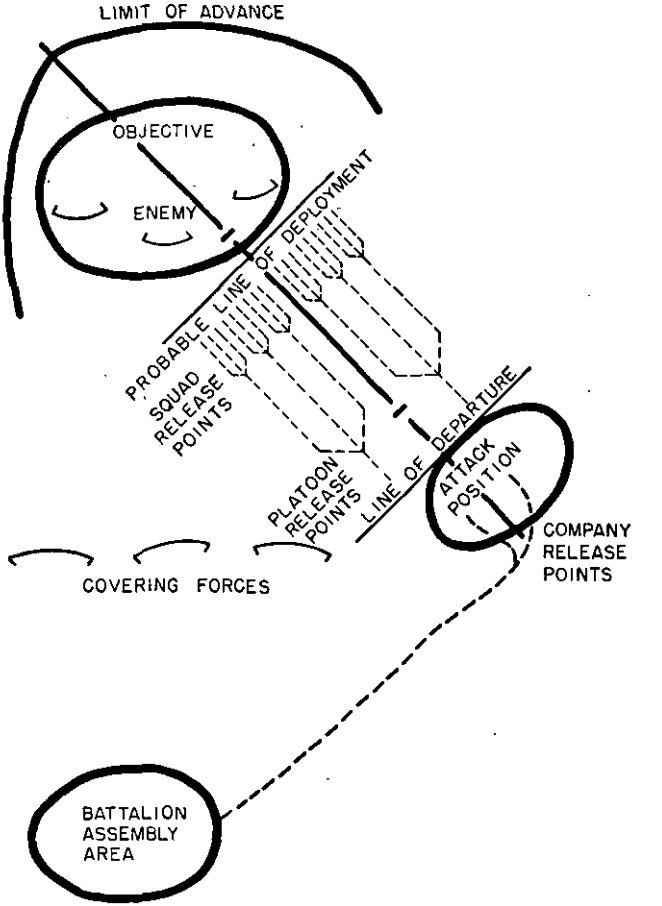


Figure 78. Battalion in a night attack (schematic).

fan out to form skirmish lines on the line of deployment. They prepare to assault at the prearranged time or on a given signal.

(2) *Control.* The commander of each column moves at its head. An officer or noncommissioned officer moves at the rear of each platoon to assist in control. Column commanders constantly check on direction and contact, and control their units to prevent premature assault.

(3) *Security.* Each column is preceded by security elements at the limit of visibility. Lateral contact is kept by connecting files operating within visual distance. If an enemy outguard is encountered, the leading elements of the column assist the security elements in disposing of this outguard by closing in with silent weapons, while the rest of the unit takes cover.

(4) *Action on premature deployment.* Action of enemy patrols or outguards may force all or part of the assault echelon to deploy as skirmishers before the time planned. If possible, elements forced to deploy re-form in column after the resistance has been reduced. The remaining elements of the assault echelon are halted during such periods or continue movement to the next planned halt and await orders. Units that lose contact with adjacent units regain contact while continuing to move forward toward their own objectives.

b. Assault. Deployment may be forced by enemy action, or it may be done upon arrival at the line of deployment. The deployment on the line of deployment is completed rapidly and silently; any prolonged halt at this stage of the attack increases the chance of detection. Precautions are taken to prevent a premature assault caused by desultory enemy firing. Upon deployment, the advance is continued at a walk until hostile resistance is met, at which time the final assault begins. At this stage all assaulting troops press on as quickly as possible, regardless of enemy action. Flares may be fired to allow the assaulting troops to take aimed shots and to move at a more rapid rate. Noise and tracer fire may be used to demoralize the enemy. Every effort is made to maintain the skirmish line and prevent it from breaking up into isolated groups. Aggressive leadership is essential.

c. Action After Capture of Objective. Consolidation and reorganization begins as soon as the objective is captured. Leaders organize the men in their immediate vicinity into groups and dispose them to resist hostile counterattacks. Rifle company mortars are moved promptly to cover likely avenues of enemy approach. Artillery forward observers adjust defensive fires as soon as they arrive on the objective. Adjustment by sound may be necessary. Tanks, if not in the assault echelon, are moved forward by guides to previously designated positions. Security elements are sent out far enough to prevent the enemy from forming for counterattack within assaulting distance of the captured position. If they must go beyond the established limit of advance,

their locations are carefully coordinated with the protective fires of artillery and mortars. By daylight all elements should be in position, with the battalion reserve in supporting distance of the objective. At dawn, final adjustments are made in positions of machine guns, tanks, and other weapons.

CHAPTER 15

SPECIAL OPERATIONS

Section I. ATTACK IN WOODS

464. GENERAL

a. For general principles governing combat in woods, see FM 100–5.

b. An attacking force usually seeks to avoid isolated wooded areas that are included in the enemy's defensive position. They are by-passed on either or both flanks while neutralizing the edges with fire and smoke. During dry weather, incendiary bombs or shells are effective and may be used if possession of the woods is not essential to future plans of the attacker. If avoiding the woods is impracticable and their possession is necessary, the attacker seeks to capture them by enveloping action. When enveloping action is not expedient or when the woods extend across the entire zone of action, the woods are penetrated. A frontal attack in woods is divided into three steps—

(1) Attack and occupation of the near edge.
(2) Advance through the woods.
(3) Exit from the woods.

465. ATTACK OF THE NEAR EDGE OF WOODS

a. Accurate information is secured about the density of woods and about roads, trails, streams, nat-

ural landmarks, and obstacles within the woods. Much of this information can be obtained from photographs. In addition, intensive ground patrolling determines the location of hostile units defending the near edge of the woods. The attack of a defended near edge of the woods is similar to the attack of any organized area. The near edge of the woods, or a terrain feature in which the near edge is included, is designated as the objective. When the attack is made over ground entirely exposed to the observation and fire of the enemy, it may be made under the concealment of smoke or darkness. The methods of attack used are the same as in the attack of an organized position.

b. When a foothold has been established in the woods, the assault echelon reorganizes by reducing distances and intervals between smaller units and supporting weapons so that contact can be maintained during the advance through the woods. Since the edge of the woods is a good target for hostile artillery and aviation, the reorganization is rapid. The commander plans the reorganization and advance through the woods at the same time he plans the attack against the near edge.

466. ADVANCE THROUGH WOODS, GENERAL

The nature of the wooded area may require deviation from standard tactical procedures. General factors to consider in attacks in woods are—

a. Concealment.

b. Limited observation.

c. Limited fields of fire for direct-fire weapons.

d. The presence of tree masks that limit the effectiveness of close support by indirect fire weapons and tactical aviation.

e. Restricted operation of all vehicles.

f. Difficulties in maintaining direction, control, and contact, which require decentralization of control.

467. PLANNING THE ATTACK IN WOODS

An attack in woods against determined resistance is carefully planned and coordinated. Much of the actual fighting is done at close ranges. The attack is further influenced by the following factors:

a. Roads and Trails. Key points along roads and trails are usually heavily defended by the enemy. The battalion plan of attack includes provisions to clear the enemy from these roads and trails to allow the use of vehicles for supply and evacuation and armored support. Continued advance without securing roads and trails may result in overextension of lines of communication and supply.

b. Defensive Automatic Fires. Defensive automatic weapons fire along existing or prepared fire lanes. Such weapons will not ordinarily have very large or effective fields of fire, and they can be readily flanked by maneuver or by infiltration of small groups. Establishing final protective lines for these weapons is exceptional.

c. Effects of High-explosive Fire. The area covered by artillery and mortar fires is increased because of the effect of tree bursts. If time permits, the defending force builds overhead cover for positions to minimize the effect of such fires. On the other

hand, an attacking force is normally denied such cover. Areas under artillery or mortar fire that must be entered are crossed rapidly.

d. Antipersonnel Mines and Booby Traps. A defender who has had time to prepare the position usually places antipersonnel mines and booby traps throughout the area. The problems of detecting and removing them vary according to the density of the woods and the underbrush. When tanks or carriers cannot be used to breach such areas, bangalore torpedoes, primacord, and grappling hooks may be used.

e. Snipers and Raiding Parties. Concealment and movement are easy for enemy snipers and raiding parties in woods. Special precautions are necessary to protect command posts and communication, supply, and other administrative groups. The attacking force takes full advantage of its ability to conceal movements.

468. ORDER FOR ADVANCE THROUGH WOODS

The order for the advance through woods is usually issued as part of the order for the attack of the near edge. It includes—

a. Patrolling. During reorganization after capture of the near edge, aggressive patrolling maintains contact with the enemy. Detailed provision is made for patrols to protect flanks and maintain contact with adjacent units.

b. Formation. The disposition of the battalion during an attack through woods depends mainly on visibility. In sparse woods, leading elements may be fully deployed and in normal formations. In dense

woods, a more compact formation offers the greatest degree of all-around security. One reinforced company forward, one echeloned to the left rear, and one to the right rear is a typical formation.

c. Employment of Mortars. The 81-mm mortar platoon is kept in general support and is used whenever openings in the woods permit observed fire. The counterfire squad can often adjust mortar fire by sound. Because of limitations on close support by artillery, other supporting fires have added importance.

d. Employment of Tanks. The use of tanks depends on the density of the woods and the presence of roads and trails. When tanks can accompany the armored infantry during fighting in woods, the assault echelon is composed of tank-armored infantry teams. Tanks are closely protected by armored infantry during the advance.

e. Employment of Carriers. The use of carriers also depends on the density of the woods and the presence of roads and trails. The advance through the woods is made dismounted by the assault elements. Carriers are used for fire support, flank protection, and to move support and reserve elements. Carriers go forward by bounds behind the assault echelon and are kept readily available to their units. They may be used to protect personnel from tree bursts.

f. Frontages. The frontage assigned each assault company depends mainly on the density of the woods. In sparse woods, frontage may approximate that assigned in open terrain. In dense woods, frontage

must not be so wide as to take a large percentage of strength for connecting groups.

g. Maintaining Direction, Contact, and Control. To maintain direction, each assault rifle company is normally assigned a magnetic azimuth. The rate of unopposed advance depends on the visibility in the woods and contact with adjacent units. This contact is maintained by connecting groups. When the woods are dense and the frontage assigned to the battalion is wide, flank contact may be maintained by the assault companies themselves or by elements of the reserve. As control of the attack is decentralized to a large degree, periodic halts to insure or to restore control are made at specified times or on selected lines as directed by the battalion commander.

h. Instructions to the Reserve. In dense woods, the reserve is kept close to the assault echelon. The difficulty of maintaining contact between units of the battalion or with adjacent units may require that part of the reserve be used for this purpose.

i. Security. Security necessary for the advance depends on the density of the woods and the enemy action. The more dense the woods, the more opportunity the enemy has of making surprise attacks by patrols or by elements that have been by-passed by the assault echelon. All-around protection is essential. In some situations enough protection may be provided by the formation; in others, it may be necessary to increase security with patrols or detachments from the reserve. During combat in woods it is often necessary to provide supplementary protection for command and administrative groups.

j. Supply and Evacuation. If roads and trails are not cleared of the enemy and the woods are dense enough to prevent the use of vehicles, supply and evacuation is done by hand-carry. In such situations, every effort is made to secure the roads and trails or to build new ones.

k. Communication. Woods reduce the range of radio, but radio is used to the greatest extent possible. Elevated antennae increase the range of radios. Often wire is the most dependable means of communication in woods. However, when the woods are dense and enemy infiltration is possible, wire lines are policed often and thoroughly. Messenger communication is used. The difficulties of communication require commanders to stay close to the assault echelon. Command posts, therefore, are also kept close to the assault echelon.

469. REORGANIZATION IN WOODS

During reorganization in the near edge of the woods, the battalion commander confirms or modifies the previous instructions for the advance through the woods. He starts the advance as soon as reorganization is complete. If the advance is unopposed, short halts are made to check direction and contact. Such halts are preferably made at well defined lines or areas like trails, streams, or near the edge of clearings. If satisfactory areas or lines are not found in the woods, halts may be made on a time schedule or after advancing a specified distance.

470. SUPPORT IN WOODS

When resistance is encountered, the assault echelon uses frontal and flanking action to overcome it. Tanks are used when possible. Artillery ordinarily fires against relatively rearward targets or areas. Most of the indirect fire support comes from 81-mm mortars. When the woods are dense, elements of the reserve may be used to mop up areas that have been passed through by the assault echelon.

471. EXIT FROM WOODS

a. The continuation of the attack from the far edge of the woods is conducted like any other attack. Plans for the reorganization of the assault echelon are usually made before the far edge is reached. When the battalion has been meeting strong resistance and expects it to continue after the woods are completely cleared, the assault echelon is reorganized short of the far edge of the woods. Units and supporting weapons are redisposed, and frontages, zones of action, and the formation of the battalion are rearranged as necessary. New objectives are assigned; if possible, they are ones whose capture will mask the far edge of the woods from hostile ground observation and direct fire. The method of attack is selected to fit the situation. When practicable, supporting weapons are given general support missions. Artillery and mortar fires and smoke are planned to assist the exit.

b. When the battalion has been meeting little resistance, speed of movement is often more important than complete reorganization. In such cases, the

battalion reconnaissance platoon is sent forward to maintain contact. Carriers are brought up, troops are mounted, and the advance is continued as in exploitation.

Section II. ATTACK OF A RIVER LINE

472. GENERAL

a. For principles governing operations at river lines, see FM 100–5.

b. Unfordable rivers have a decisive influence on military operations because of the restrictions they impose on movement. Even when possible crossings exist, rivers are obstacles to an attack; they are natural defense lines, they screen against hostile ground reconnaissance, and they protect against hostile armored attacks. Any river crossing operation requires thorough reconnaissance, surprise, and special preparations along tactical and technical lines. The three types of river crossings are deliberate or assault, crossings of opportunity, and unopposed.

c. When the enemy does not actively hold the river line or when friendly forces have already seized the far bank, a leading battalion is not actively employed until after reaching the far bank of the river. Usually, this is also true for a reserve battalion in an opposed crossing. After crossing, the operations of the battalion are like those for any attack except that, initially, ammunition may have to be brought across the river by boats or rafts and then hand-carried to weapons positions. When the far bank of the river is held by the enemy, a battalion

usually attacks the river line in conjunction with other forces. The mission of the battalion in both cases is to make a crossing and seize a bridgehead in order to protect the later crossing of other troops.

d. The higher headquarters attack order usually includes the following information and instructions:

(1) Information of the enemy and of the terrain within the area of crossing operations.
(2) Mission, hour of crossing, zone of action, and objectives of the battalion, to include any diversionary efforts to be made to deceive the enemy.
(3) Information of the mission of other units to include diversionary efforts to deceive the enemy.
(4) Plan for the tactical air support and the use of attached tank units, artillery, and other supporting troops.
(5) Engineer material and personnel that will assist in the crossing, including where and when they will be available.

473. RECONNAISSANCE

Preparations for the crossing include the search for information of the enemy and of the terrain where the battalion is to operate. Whenever practicable, ample time is allowed for daylight reconnaissance by all leaders, including those of the engineer units that provide equipment for the crossing. Small reconnaissance patrols may be sent under concealment of darkness across the river. Personal reconnaissance by the battalion commander, supplemented by directed reconnaissance

and other sources of information, should develop the following points:

a. Composition and distribution of enemy forces, including the location of weapons, mine fields, and other defensive works, and undefended or weakly defended crossing sites.

b. Well defined terrain features suitable for company objectives.

c. Locations for reserves and other units upon reaching the far side.

d. Road and trail net on the enemy side.

e. Routes of advance through the enemy position.

f. Terrain features on the near side of the river for observation posts and for position areas for tanks and supporting weapons and carriers used for fire support.

g. Location of crossing sites in the battalion zone of action, largely determined by—

(1) Width, depth, and current of the river.
(2) Existence of sand bars, reefs, islands, dams, or other obstructions.
(3) Steepness and height above water of both river banks.
(4) Approaches to both river banks.
(5) Existence of fords, ferries, bridges, and old bridge sites.
(6) Exact locations of concealed attack positions on the near bank of the river. These should be readily accessible to trucks and identifiable at night.
(7) Concealed routes that lead directly from the attack positions to the crossing sites on the near bank.

(8) Assembly areas prescribed by the higher headquarters.

(9) Routes from the assembly area to the attack position. For daylight movement, concealed routes are selected. For movement during darkness, well defined and easily traveled routes are selected.

474. PLANS

Based on the combat command commander's order and on the additional information secured through reconnaissance, the battalion commander prepares a detailed plan. This includes—

a. Coordination with adjacent units.

b. Determination of width of crossing front, when not prescribed by the higher commander.

c. Formation for the crossing; in particular, the units to cross in the leading waves and the designation and location of the reserve.

d. Zones or frontages and initial objectives of assault companies and determination of unit crossing sites.

e. Allotment of craft to units and assignment of other means of crossing.

f. The place and time of contact between lower unit commanders and the engineer personnel in charge of the craft and other material means of crossing.

g. Missions, firing position areas, targets, sectors of fire, and principal directions of fire for the mortar platoon. Conditions under which fire will be opened.

h. Time and method of crossing of the mortar platoon and its tentative employment after crossing.

i. Missions assigned to attached tanks, including their use in the initial plan of direct fire, if possible.

j. Time of crossing of tank elements and their tentative employment after crossing. This includes crossing means (on bridges, either existing or to be built, by raft, or by fording after being waterproofed). Preparations are made by the supporting engineers according to combat command and division plans.

k. Coordination of artillery fires into the plan of supporting fires, including provisions for early crossing of artillery liaison and reconnaissance details.

l. Designation of attack positions, with routes and plan for movement of units to them, including provisions for guides and time schedule.

m. Establishment of local security on the far bank to protect the construction of foot bridges.

n. Formation for the advance to the initial objective.

o. Antiaircraft and antitank security during and after the crossing.

p. Use of the vehicles, including timely requests for waterproofing if fording is feasible.

q. Supply plan, including special measures to be taken.

r. Evacuation plan, including establishment of aid stations, early crossing of part of the medical detachment, and method of evacuating casualties from the far bank of the river.

s. Communication within the battalion and to combat command headquarters.

t. Axis of signal communication, location of command post on the near bank, and tentative locations on the far bank.

u. The initial location of the battalion commander, his time of crossing, and his tentative location on the far bank of the river.

475. ORDERS

To give all leaders the maximum time for reconnaissance and planning, the battalion commander issues warning orders as soon as practicable. The final order for the crossing may be fragmentary, but preferably it is complete, specific, and detailed. It should include movement from the assembly area to the near bank, the crossing of the river, and the capture of the initial objective. At the initial objective the battalion commander ordinarily issues additional orders for the continuation of the attack.

476. WIDTH OF CROSSING FRONT

The crossing front of the battalion is usually prescribed by boundaries, by frontages, or by designating limiting points. The frontage on the far bank assigned units of the battalion approximates that assigned in an attack not involving a river crossing. Besides the factors determining the width of zones for any other attack, the following must be considered: both banks of the river, the width and depth of the river, the speed and direction of flow of the current, and the amount and type of crossing means available. These factors may require that gaps exist between units during the actual crossing.

When such gaps exist, tactical unity of the participating elements is preserved. For dispersion during the crossing and ease of the deployment after landing, lateral intervals between craft approximate the intervals between corresponding units on land.

477. FORMATION FOR CROSSING

The determination of the rifle strength to take part in the assault crossing depends on the same factors that affect the frontage and on the width of the zone of action. The battalion commander usually keeps at least one rifle company, or the bulk of it, in reserve. However, in this attack as in all others, the battalion commander commits as much of his strength to the assault echelon as is needed to accomplish his mission. Rifle companies in the assault echelon usually cross the river with three rifle platoons abreast (fig. 79).

478. ASSIGNMENT OF CROSSING MEANS

Enough assault or storm boats are normally provided to carry the leading waves of the battalion. These boats are available for continued ferrying operations for personnel and supplies. Other types of crossing craft may be made available. One or more foot bridges are usually provided for each assault battalion. Tactical unity is maintained as far as possible in assigning personnel to boats, rafts, and other crossing means. One satisfactory method of distributing the elements of an assault battalion is—

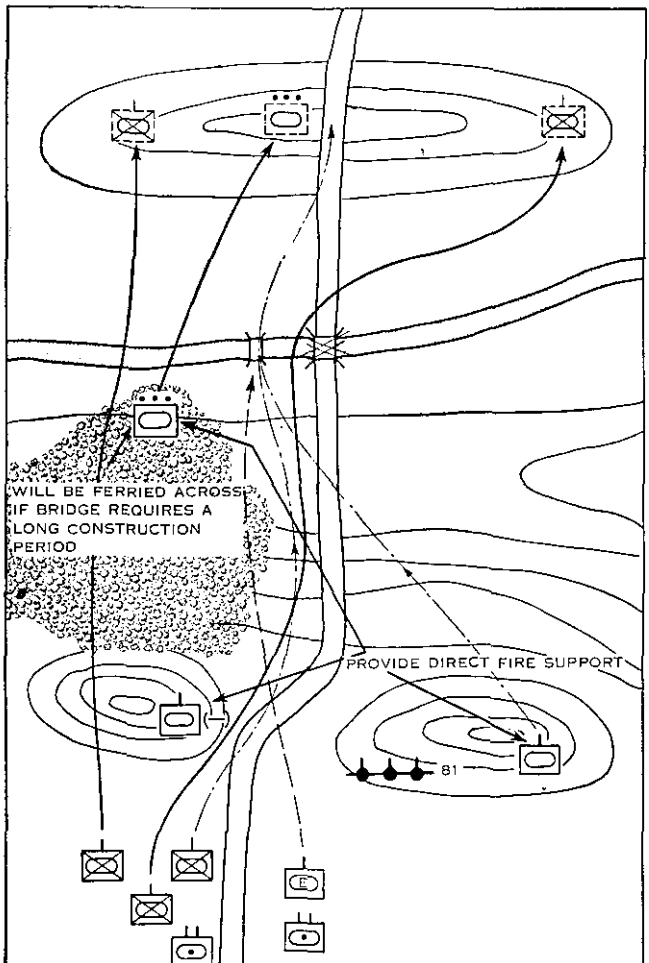


Figure 79. Reinforced armored infantry battalion in attack of a river line.

a. In Assault or Storm Boats. The first three assault waves use this means of crossing.

(1) *Leading wave.* Assault platoons of assault rifle companies, including attachments (if any) and observers from 60-mm and 81-mm mortar platoons. (If waterproofed armored vehicles can ford the river and if visibility permits, they may move with or closely follow this wave.)

(2) *Second wave.* Company command groups, weapons platoons (less detachments, if any), and support platoons (if held out) of the assault rifle companies; artillery forward observers; and reconnaissance parties from the battalion mortar platoon. (Waterproofed vehicles may move with or closely follow this wave, if fording is feasible and visibility permits.)

(3) *Third wave.* Mortar platoon (less detachments and transport, unless fording is possible), the forward echelon of the battalion command post, artillery liaison personnel, a designated part of battalion headquarters platoon, and the forward echelon of the battalion aid station and battalion surgeon.

b. On Foot Bridge or Ferries. The battalion reserve, battalion headquarters and service company (less detachments), and rear echelon of the battalion aid station cross this way.

c. By Raft, Bridge, or Fording. All vehicles that are necessary for tactical operation cross by whichever of these means is available. This crossing of

vehicles is done as fast as practicable, and much of it can be done concurrently with the earlier waves. When fording is feasible, armored vehicles especially are waterproofed and cross as early in the assault as practicable.

d. By Improvised Means. The battalion is prepared to seize and exploit crossings before the enemy can establish a defense. This type of action often requires crossing by wading, rafts, logs, barges, dams, destroyed bridges, or any available expedient.

479. OBJECTIVES

a. The battalion *initial objective* is a terrain feature which, when captured, will effectively limit hostile direct fire on the crossing sites. Assault rifle companies are assigned parts of this objective as their objectives.

b. The *second objective* of the river crossing is a terrain feature which, when captured, will effectively limit hostile ground-observed indirect fire on the bridge sites in the river crossing area. This objective should be within supporting distance of light artillery located on the attacker's side of the river.

c. The *final objective* of the river crossing is a terrain feature which, when captured, will provide adequate maneuver space for further operations of the entire attacking force on the enemy side of the river.

480. ASSEMBLY AREA AND ATTACK POSITION

a. Assembly Area. The characteristics of a battalion assembly area for a river crossing are like

those for any assembly area. It should be within easy night-marching distance of the river line. The activities in the assembly area are the usual ones; in addition, plans and orders for the crossing by all units are completed while in this area. The troops are organized into boat teams, or are specifically assigned other means of crossing.

b. Attack Position. The desirable characteristics of the battalion attack positions for a river crossing are—

(1) Ease of identification at night or during reduced visibility.
(2) Accessibility to vehicles or carrying parties for moving the equipment across the river.
(3) Nearness to easily identified, concealed, and covered foot routes to the river.
(4) Nearness to the actual crossing sites.
(5) Concealment for assembly of craft and other means of crossing.
(6) Terrain suitable for distribution of troops parallel to the crossing front. This distribution allows troops to proceed directly and without delay to embarkation points and permits them to leave the near bank simultaneously along the entire front.

481. MOVEMENT TO THE RIVER

a. Movement from Assembly Area to Attack Position. After the attack position has been selected, each unit involved in the crossing sends guides to make a daylight reconnaissance of its part of the attack position and of the routes to it from the assembly area. When practicable, the troops make

the movement under battalion control until they move into their own parts of the attack position. To prevent confusion and loss of time in the attack position, units march by boat teams or in tactical groups specifically assigned to other means of crossing.

b. Movement from Attack Position to River. On arriving in the attack positions, units of the leading waves are met by engineer guides and led to their craft or other assigned means of crossing. Boat teams, accompanied by engineer crews for the craft, are guided along previously marked and secured routes, carrying their assault or storm boats to the river. The near bank is the line of departure for the move across the river. Every effort is made in the attack position to coordinate movement so that no pause for further coordination need be made at the river's edge. The movement forward to the river's edge is timed so that all the craft of the leading wave are launched together. All suitable routes to the river from the attack positions are used in order to avoid congestion.

482. CROSSING THE RIVER

Engineer crews are charged with the operation of the craft in the crossing. In the assault echelons, the senior armored infantryman aboard is responsible for directing each craft to its landing site. No attempt is made to keep formation of any kind while on the water, although intervals between craft should be preserved. No effort is made to counteract natural drift unless the current causes an appreciable drift downstream from the proposed landing

site. In such a case, the necessity for counteracting this drift is anticipated by the battalion commander, and specific instructions about it are included in the battalion order for the crossing. Firing from craft is rarely attempted in daylight; at night it is prohibited. On reaching the far bank, troops debark rapidly, deploy, and attack. Engineer crews return the craft immediately to the friendly bank.

483. SUPPORT OF CROSSING

a. Tactical air, *artillery*, and *mortar support* for the crossing are arranged as for any other attack. The 81-mm mortar platoon is initially on the near bank in general support for the assault crossing. Mortar observers move with the assault platoons. Plans are made for the crossing of the 81-mm mortar platoon as soon as the initial objective is captured. After crossing, the mortar platoon is used as in any other attack.

b. The method of crossing for tanks is determined by the depth of the river, the nature of its banks and of the river bottom, and the means available for their crossing. The presence of friendly tanks may be essential to the success of the assault, and every effort is made to cross them at the earliest practicable time. When fording the river is feasible, tanks are waterproofed and cross as soon after the leading wave as possible. Ordinarily, other tank elements stay on the near bank to protect the crossing and to deliver high explosive and long-range antitank fires for the leading waves. When fording is not feasible, tanks may be crossed on rafts or bridges. Before movement, they normally support the crossing by fire.

After crossing, tank-armored infantry teams function in their normal manner (fig. 80).

c. If the crossing is made in daylight, it is usually made under concealment of a smoke screen laid by the mortar platoon, artillery, and chemical units. If such a daylight crossing is to be forced against a strongly held river line, the leading waves usually cross under cover of all available supporting fires, in addition to smoke.

484. ATTACK AFTER CROSSING

a. After crossing, troops in the leading wave promptly clear the river bank. If the actual crossing of the water is opposed, no attempt is made at first to reorganize the boat teams into their normal platoon groupings. In such cases, the individual boat teams continue the attack to the initial objective. The platoon leader regains control of the boat teams and reorganizes his platoon whenever he can or when the initial objective is captured. When the crossing of the water is unopposed, individual boat teams go immediately to previously designated locations and are reorganized into their platoons. The rifle platoons then push forward to the initial objective, where commanders reestablish control over their units. After securing the initial objective, the battalion commander organizes the attack against the second objective. He coordinates the fires of supporting elements and conducts the attack in the usual manner.

b. When prolonged fighting is expected before tanks and carriers join the dismounted armored

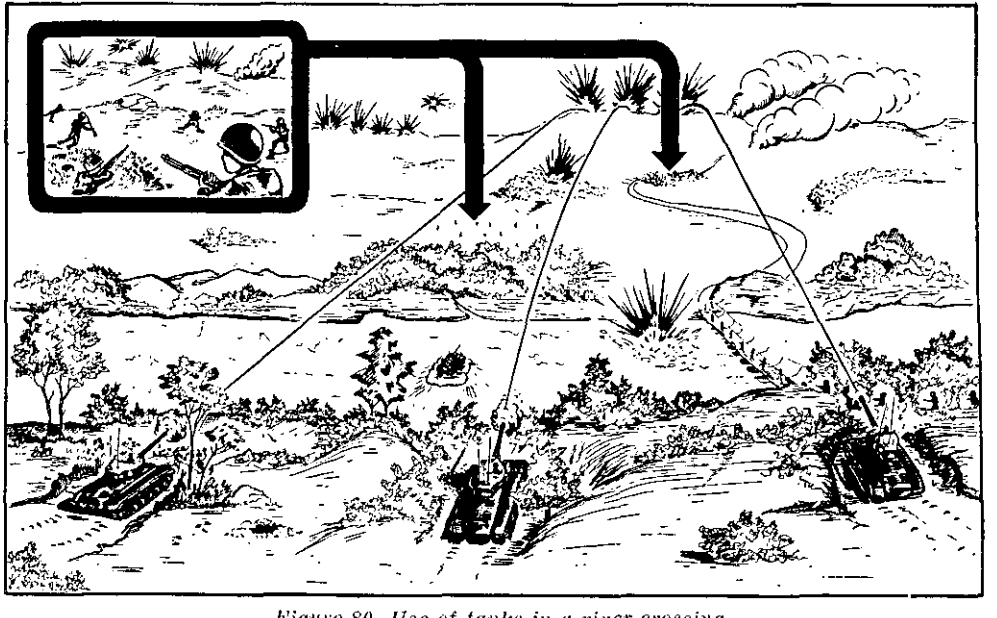


Figure 80. Use of tanks in a river crossing.

infantry on the bridgehead, certain actions are considered in planning and are taken on the bridgehead. These include—

(1) Formation of rocket launcher teams.
(2) Formation of gun crews for vehicular weapons to be carried across the river.
(3) Assignment of tanks on the near bank to fire into the bridgehead area against hostile armor that succeeds in penetrating the position.
(4) Formation of carrying and ferrying parties for ammunition and supplies.

485. SECURITY

a. General. After a crossing, elements of the battalion promptly establish security as for any attack. Patrolling, especially to the flanks, is vigorous in order to secure early information of enemy counterattacks.

b. Antiaircraft Security. After the crossing is discovered, the neutralization of hostile air operations over the crossing area is vital. Higher authority usually provides aviation and antiaircraft security for the crossing area.

c. Antimechanized Defense. After crossing the river, antimechanized defense is promptly established. Before the crossing of tanks, rocket launchers are disposed to meet any armored threat.

486. SUPPLY

a. General. In river-crossing operations, the supply and evacuation of the battalion differ from

normal only between the time of landing of the leading wave and the time of crossing of motor transport.

b. Supply Activities. Soldiers usually carry one or more reserve rations. Ammunition needed initially on the hostile bank is carried individually and in assault craft. Some ammunition may be air-dropped on the far side of the river. Ordinarily, however, the replenishment of ammunition for all weapons is done by hand-carry, using craft and foot bridges. Amphibious vehicles may be used to good advantage. Carrying parties detailed for the purpose may have to move ammunition by boats, rafts, or foot bridges from the ammunition trucks in the combat trains to a temporary battalion ammunition supply point on the far bank. Ammunition is accumulated there and hand-carried to the using units on call.

c. Evacuation. Casualties on the near bank are usually evacuated directly to the battalion aid station or to the aid stations of other units in the vicinity. The surgeon and a forward echelon of the battalion aid station cross with the battalion command group. A detachment of the battalion aid station is set up on the far side of the river to care for casualties on that side. The rest of the battalion medical detachment usually crosses behind the battalion reserve. The evacuation of casualties from this aid station is by returning craft, until bridges are available.

487. COMMUNICATION

a. The forward echelon of the battalion command post usually crosses in the third wave. The rest

of the command post personnel and equipment cross not later than the capture of the initial objective; usually it displaces to the far bank behind the reserve. Because of the difficulties of control, the prompt reporting of company command post locations is essential.

b. Before crossing, radios may be kept silent for secrecy. With the crossing of the leading waves, this silence is usually lifted. Radio then becomes the chief means of communication between the battalion commander and the assault echelon. Communication to the front and rear is initially by radio, visual signals, and messengers. Light aircraft may also be used for communication to the rear. Wire lines are usually extended across the river on foot or ponton bridges. They can also be strung over or in the river, unless it is very wide and flows swiftly.

Section III. RAIDS

488. GENERAL

A raid is an attack to accomplish a specific purpose within the enemy position, with no intention of holding the territory invaded. Raids may be executed within or beyond supporting distance of the parent unit, either in daylight or in darkness. When the area to be raided is beyond supporting distance, the raiding party is organized and operates as a separate force.

a. Purpose. Raids may be made to capture prisoners; to capture or destroy specific enemy matériel; to obtain detailed information of hostile units, dispositions, locations, strength, works, intentions, or

methods of defense; and to harass the enemy or disrupt his plans.

b. Characteristics. The raiding force always withdraws after it accomplishes its mission. Unless carefully planned and executed, the withdrawal is the most difficult and costly part of the operation. Security is vital, because normally the raiding force penetrates the enemy position and is vulnerable to attack from all directions. It is often beyond supporting distance of the parent unit. A night raid has the same characteristics as a night attack, and it is planned and conducted similarly. A daylight raid has the same characteristics as a daylight attack, and is planned and conducted similarly. They differ principally in the speed of execution.

489. TYPES WITH RESPECT TO SUPPORT, GENERAL

Depending on the support obtained, raids may be classified as supported or unsupported. The choice of type depends on the terrain, the mission, the distance to the area to be raided, the size of the raiding force, the strength of the position to be raided, the visibility, and the time the raiding force is to be on the mission.

490. SUPPORTED RAID

A supported raid is one using available supporting fires of organic and parent unit weapons before and during the raid. The battalion supporting weapons and artillery fire preparation fires before the raid and supporting and protective fires during the raid. Preparation and supporting fires are used as

for any other attack. The protective fires isolate the objective, prevent or limit hostile counterattacks, and aid in keeping open the routes of withdrawal. All these fires are normally conducted together with other planned fires throughout the area. Secrecy as to the exact location, direction, and time of the raid is maintained. When made at night, the raid may be illuminated or nonilluminated. Supported raids may be made under the following conditions:

a. In daylight or under other conditions of good visibility.

b. The enemy position is well outposted and organized. In such situations surprise through stealth is improbable.

c. The raiding force is company size or larger.

d. The mission requires the raiding force to remain in the hostile position for some time.

491. UNSUPPORTED RAID

An unsupported raid is one made without supporting fires. This type of raid depends primarily on surprise for success. Surprise may be gained either through stealth or through rapidity of attack and withdrawal. Supporting and protective fires are planned similar to a supported raid, but are not used unless called for by the raiding force. Unsupported raids may be made—

a. At night or under other conditions of reduced visibility.

b. When the enemy position is hastily organized, or when the attainment of surprise through stealth or speed of attack is probable.

492. TYPES WITH RESPECT TO USE OF VEHICLES

a. A *dismounted raid* is one made by dismounted personnel. It normally is made at night and does not advance beyond supporting distance of the parent unit. This type of raid is made when units are in close contact with the enemy and it is desired to capture prisoners or destroy specific enemy installations or matériel, or to secure information. It has a definite nuisance value and often delays enemy planning. It may be either supported or unsupported.

b. A *mounted raid* is one made by tanks and mounted armored infantry. This type of raid generally advances beyond supporting distance of the parent unit. The purpose of mounted raids is to destroy specific enemy installations or matériel, to capture specific types of equipment, to free friendly personnel in enemy prisoner of war camps, and to disrupt the enemy's supply lines temporarily.

493. ROLE OF THE BATTALION

a. The armored infantry battalion may be the main element of the raiding force. For a force as large as a battalion, the mission normally assigned takes it beyond supporting distance of the parent unit, and it is organized and operates as a reinforced battalion. Such missions are normally ordered by commanders higher than the combat command.

b. Unless the battalion is detached, raids of smaller size than battalion are usually ordered by the combat command commander. Such raids are often within supporting distance, and the combat

command commander issues instructions covering the purpose of the raid and the fire support to be made available. Often he may prescribe the area to be raided, the size of the force to be used, and the time of the raid.

494. PREPARATIONS FOR A DISMOUNTED RAID, GENERAL

Planning and coordination of a raid are detailed and complete. A simple plan, thoroughly understood by all the participating troops, and thorough reconnaissance are essential. If the raid is to be made at night, night reconnaissance as well as daylight reconnaissance is desirable. Besides the normal preparation for either a daylight or a night attack, additional preparations needed are discussed in paragraphs 495–506.

495. SELECTION OF RAID OBJECTIVE

The raid objective may be prescribed by the combat command commander or it may be left to the discretion of the battalion commander. Where possible, the area selected for the raid is one that is lightly defended. For daylight raids, covered routes of approach and withdrawal are desirable. An objective close to friendly front lines permits rapid execution of the raid, especially if the terrain leading to it has few serious obstacles or is easy to travel. This is especially desirable in an unsupported raid. In a supported raid, an objective close to friendly forces aids in fire support and may allow the area to be isolated by fires.

496. SIZE OF RAIDING FORCE

Raiding forces are kept as small as possible consistent with the mission. Problems of surprise, control, and speed of execution increase directly as the size of the raiding force.

497. ORANIZATION OF RAIDING FORCE

The raiding force is usually organized into smaller forces, each organized and equipped to accomplish a specific part of the over-all mission. Such forces include assault parties to perform specified tasks within the enemy position; detachments to provide security for the assault parties; parties to handle prisoners or to remove captured matériel; a reserve; and parties for security during forward movement and to protect the withdrawal.

498. PLAN OF SUPPORTING FIRES FOR A RAID

a. Because of the necessity of detailed planning for supporting fires, early decision is made as to whether the raid will be supported or unsupported. When the raid is being made by an element of the battalion, the battalion commander usually receives the recommendation of the raiding force commander before making his decision. In any case, the battalion commander requests additional weapons, fires, or equipment as necessary for the mission. When the raid is within supporting distance of the combat command, a complete and detailed plan of fire support is arranged, even though the fires may not be used.

b. Preparation and supporting fires are planned and executed as for any other attack. Preparation fires usually sacrifice secrecy and surprise, but the strength of the enemy position may require their use. Protective fires neutralize enemy positions within effective radius of the area to be raided and box in the area so as to isolate the defending troops, as well as to protect the raiding force. Such isolation is planned to include the routes of approach and withdrawal. All fires are precisely prearranged as to targets and signals to be used. They may begin at a specified time or signal or on call of the raid commander. During the raid, fires are lifted or shifted as necessary.

c. As the fires must be accurately placed under any condition of visibility, they are registered in advance. To preserve secrecy, the registration covers a larger number of points than those actually needed for the raid. If possible, the registration is spread out over several days. If weapons are to fire on more than one target during the raid, registration is completed for all such targets.

499. TIME OF RAID

In preparing for a raid, time is necessary for reconnaissance, planning, registration of supporting fires, and rehearsals. Usually at least one night should intervene between the receipt of orders for the raid and its execution. Raids are preferably carried out at dawn, twilight, or in fog, mist, or other conditions of low visibility, to limit enemy observation and yet give enough light for close combat.

However, successful raids can be made in broad daylight or in full darkness. Successful raids in broad daylight usually depend on the proper use of supporting fires and on the ability to blind enemy observation with smoke.

500. ROUTE OF ADVANCE AND WITHDRAWAL

a. Unless the raid is to be made during darkness, covered routes of approach are used and the raid is begun from the last covered position. Under conditions of reduced visibility, when surprise through stealth is possible, advance and flank security detachments precede the raiding force. They prevent premature discovery of the raid by clearing definitely located hostile outguards from the area with silent weapons.

b. The withdrawal may be made over the same route used for the advance, or it may be made over another route. In any case, the routes of withdrawal avoid the suspected location of all enemy defensive fires. Road intersections and other prominent landmarks are avoided. Security detachments and protective fires are used to keep the routes of withdrawal open.

501. RALLYING POINTS

Rallying points are designated at which units assemble when they have become separated during the raid or have completed their missions and are ready to begin the withdrawal. A rallying point is prescribed near the objective, and a series of rallying points may be prescribed along the routes of advance

and withdrawal. A rallying point within friendly lines is also usually prescribed to collect matériel, prisoners, and information gathered in the raid.

502. PASSAGE OF OBSTACLES

A raid against a well-organized position must generally pass through enemy barbed wire and other obstacles. Barbed wire is usually cut by leading elements with wire cutters. Surprise may have to be forfeited by using bangalore torpedoes to destroy sections of the wire. Mine fields are neutralized in advance, and the leading elements of the raiding party include men who are experienced in detecting and disarming mines and booby traps and who attempt to breach the mined area without forfeiting the secrecy of the attack. At the conclusion of the attack, they may be required to open other lanes for withdrawal.

503. EQUIPMENT FOR A RAID

The battalion commander prescribes the equipment to be carried. Arrangements are made to provide any special equipment requested by individual raiders, such as carbines, sub-machine-guns, special knives, and blackjacks. For night raids, equipment and identification similar to that used for night attacks are prescribed. White cloth may be worn over the uniform to match the snow; at other times, clothing and hands and faces may be darkened. If the purpose of the raid includes the capture of cumbersome matériel, some improvised means of towing or carrying this equipment is

planned in advance. When tanks go on the raid, they may be used for this purpose.

504. REHEARSALS

Time is often available for rehearsals—particularly in a stabilized situation. For night raids at least one daylight rehearsal and an additional night rehearsal should be held. Preferably, these rehearsals are held on ground similar to the area to be raided, and the troops carry and use the equipment prescribed for the raid.

505. CONDUCT OF RAID

a. Dismounted Raid.

(1) If the raid is made at night or under other conditions of reduced visibility, it is done like a night attack. If the raid is made in daylight, its conduct differs from any other daylight attack mainly in the speed of the action. The raid commander takes calculated risks during the raid and profits from the enemy confusion that ordinarily results. The action of the raiding parties is decentralized, and each operates as required by its own mission. As far as practicable, the actions of these parties are coordinated by the raid commander.

(2) The principal duties of the raid commander during the raid are to decide when to call for, shift, or lift supporting and protective fires; to be constantly on the alert for unexpected hostile reactions and to take

prompt measures to meet them; and to decide when to order the withdrawal.

b. Mounted Raid. A mounted raid is planned and conducted like an exploitation. However the objective of the raid usually is the destruction of matériel or an installation, or the seizure of equipment or personnel. The raiding force normally returns to its parent unit after accomplishing the mission.

c. Route. The route to the objective is selected to gain surprise and provide the maximum speed. A different route is usually selected for return. Frequent changes in direction confuse the enemy about the axis of advance.

d. Action at Night. If contact is broken with the enemy, a night march in the enemy's rear, although hazardous, often places the raiding force in an area where its presence is unsuspected. This gives the raiding force the advantage of surprise and the opportunity to inflict maximum damage in the enemy rear areas. If contact with the enemy is broken, a raiding force operating in a wooded and uninhabited area may camouflage itself in the woods at night, remain undetected for several days, and then emerge at night and continue the raid after the enemy believes that the raiding force has departed.

e. Prisoners of War. Only a limited number of prisoners of war can be captured by a raiding force. Too many prisoners slow down the force and impede its progress.

f. Capture Imminent. If capture is imminent, the raiding force commander destroys his matériel to

prevent its being seized in operating condition by the enemy.

g. Leadership. Aggressive leadership is essential on mounted raids. The personnel fully realize the hazard of operating beyond supporting distance of friendly troops and completely surrounded by the enemy. Daring, aggressive, alert, and enthusiastic commanders will get the best results.

506. DISMOUNTED RAIDS BY ELEMENTS OF THE BATTALION

When the raid is to be made by an element of the battalion, the battalion commander designates the company that is to make the raid or provide the raiding force. In some cases, he may designate the raid commander. His order will always cover the mission and may cover some or all of the other details discussed in this section. In any case, the battalion commander makes the detailed coordination necessary with other units of the battalion and with adjacent and supporting units.

Section IV. ATTACK IN TOWNS

507. GENERAL

Armored units avoid towns if practicable; however, it is impossible to avoid all villages and towns and still clear an axis of supply. Large towns and cities normally are by-passed, but on occasion armored units are used to seize them when their possession is desired by the higher commander. For details of combat in towns, see FM 31–50.

508. COORDINATED ATTACK

Combat in built-up areas is characterized by close fighting, use of small units, and difficulty of control. Teams are used to penetrate the outer defenses of the town, to encircle it, and to mop up within it. The attack of a town is preceded by a detailed reconnaissance of the objective. Sources of information are normal intelligence channels, local inhabitants, maps and aerial photos, reconnaissance patrols, prisoners, and standard travel publications. Supporting fires and details of coordination are planned before the attack. Main roads likely to be mined and covered by fire are avoided in penetrating the outer defenses. The tanks concentrate heavy fire upon that section of the town selected for initial entry. When close to the town, tanks shift their fire to the flanks, supporting fires are lifted, and the dismounted armored infantry moves forward to gain a foothold in the town. The armored personnel carriers are used to transport armored infantry as fast as possible to the point where the dismounted assault begins. Once a foothold has been established, armored infantry carriers are brought into the town and used to protect the flanks and rear of cleared areas. The town is cleared by dismounted armored infantrymen with tank, mechanized flame thrower, and armored engineer support (FM 31–50 and figs. 81, 82, and 83).

509. SURPRISE ATTACK UPON A WEAKLY HELD TOWN

When the enemy defenses of a town are weak, as when he is just beginning to organize them, the

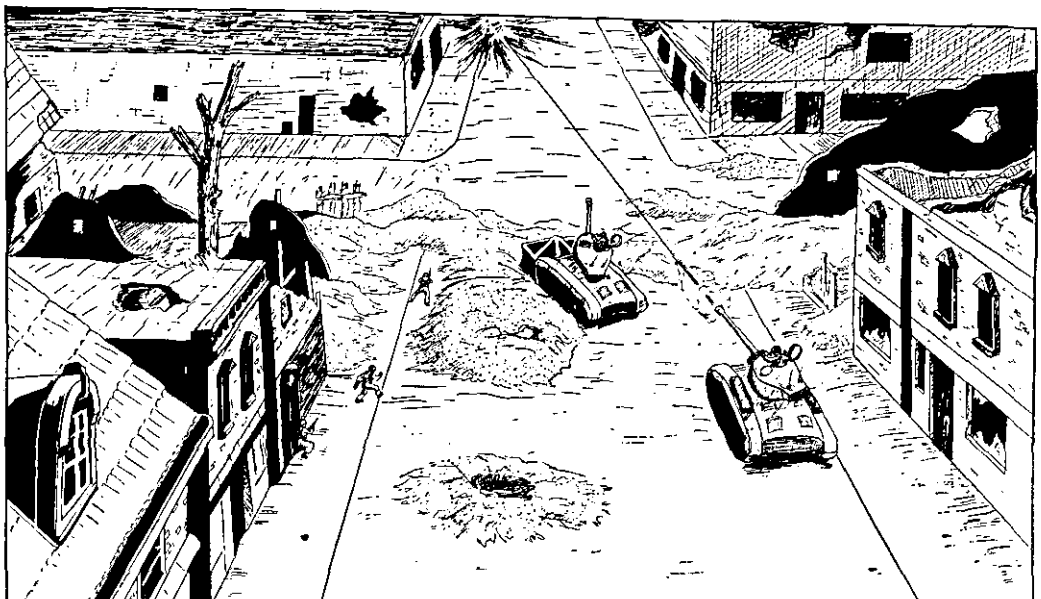


Figure 81. Use of tank dozers in town fighting.

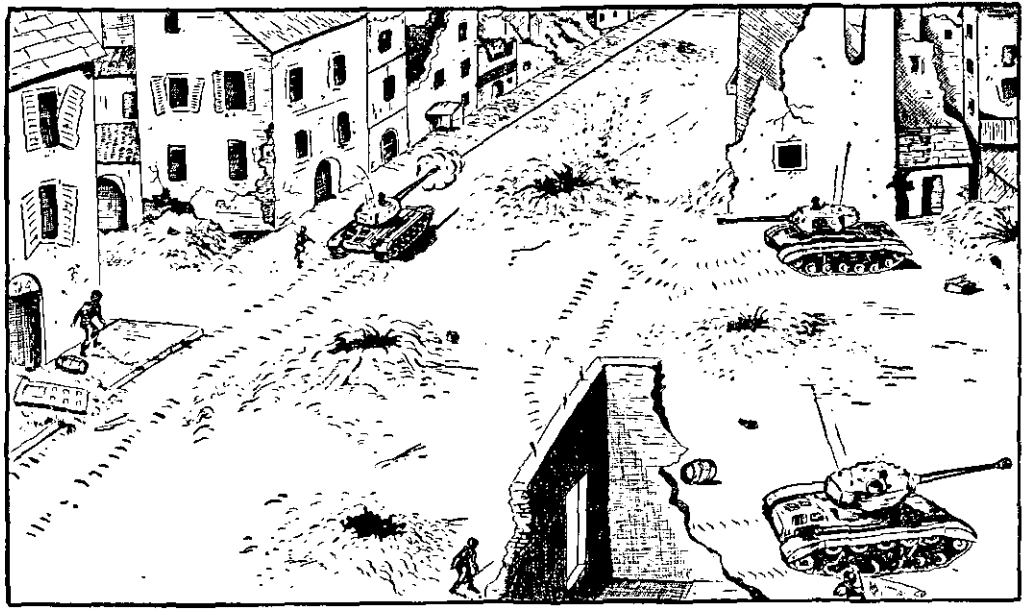


Figure 82. Tank employment in town.

Figure 83. Use of flame-throwing tanks in town fighting.

advance guard (leading tank-armored infantry team) immediately attacks from march column. If enemy defenses are weak, it is not essential that the attacking force be predominantly infantry; but it is important that the dismounted armored infantry accompany the leading tanks as they enter the town. This force drives directly toward the center of the town, clearing only access streets during the advance. From the center of town the assault force attacks outward toward the rear of the enemy defenses (fig. 84).

Section V. ATTACK OF FORTIFICATIONS

510. GENERAL

Tank units are not ordinarily used in the assault against defended fortified positions. With the combat command, the reinforced armored infantry battalion is used to breach fortified positions. Reinforced tank battalions are normally held in reserve to exploit this break-through. FM 31–50 covers the details of attack of fortifications.

511. ORGANIZATION

The armored infantry battalion, reinforced heavily with tanks, mechanized flame throwers, and armored engineers, is employed to attack fortifications. Within the battalion small assault teams of tanks, armored infantry, and armored engineers form the basic fighting units. Because of the static nature of the enemy defensive position, a considerable amount of information is usually available to the assault

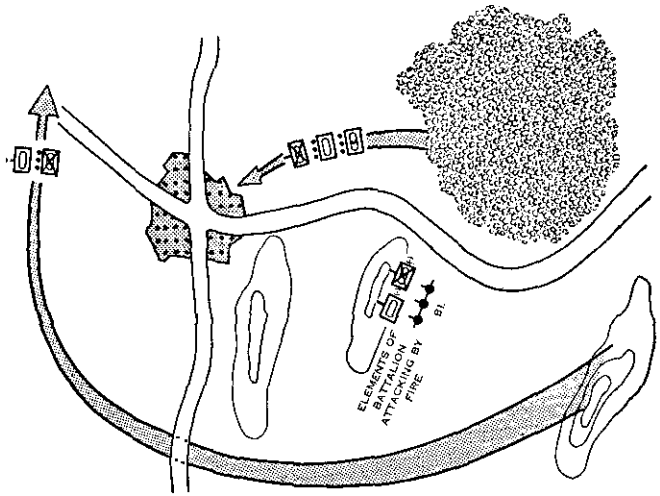


Figure 84. Reinforced armored infantry battalion in attack of a town.

force. Based on this information, a detailed plan of attack is made and rehearsed in rear areas.

512. TANKS

When the fortifications are strongly defended, tanks give fire support to the armored infantry-engineer assault detachments. The tank elements displace forward as needed to provide continuous direct fire support.

Section VI. OPERATIONS IN EXTREME COLD

513. GENERAL

a. Troops require special clothing and heated shelter. Equipment and supplies that would be

damaged by freezing are protected against the cold. Weapons and vehicles are winterized with special lubricants. Wheeled vehicles may be used on established roads in rear areas. Full-tracklaying vehicles with low ground pressures are used for movement over snow-covered or muddy terrain. Movement on icy slopes requires that tracks be fitted with special grousers.

b. Slow movement increases all time factors, reduces supporting distance, and frequently limits the depth of combat missions. Careful reconnaissance by patrols on skis, snow-shoes, or light oversnow vehicles precedes movement of units. Reconnaissance reports include information on snow depths and ice thickness. Short-range weather forecasts also are important in planning movement.

c. Armored units advancing cross-country avoid heavy woods and deep drifts, taking advantage of wind-swept ridges where snow cover is thinnest. Thickly frozen lakes and rivers, instead of being obstacles, are good routes for movement.

d. Short periods of daylight and the difficulty of concealing movement in snow-covered terrain cause an increase in night movements, which are aided by clear atmosphere and bright moonlight. Deep snow provides cover from hostile fire, but increases the difficulty of orientation on the terrain. Long movements require the use of navigational aids.

Section VII. DESERT OPERATIONS

514. REFERENCE

For detailed discussion of desert operations, see FM 31–25.

515. GENERAL CHARACTERISTICS OF DESERT AREAS

Special training and conditioning and a high degree of self-discipline are essential for desert operations. All deserts, regardless of latitude, have certain characteristics in common—lack of water, absence of vegetation, large areas of sand, extreme temperature ranges, and brilliant sunlight. The terrain in deserts is not necessarily flat and level. There are hills and valleys, mountains and sand dunes, rocks, shale, and salt marshes, as well as great expanses of sand. These may present obstacles to movement; however, the types of terrain vary and present only local difficulties to movement.

516. CAMOUFLAGE

The lack of vegetation in the desert makes concealment of men and equipment difficult. Artificial means of camouflage are extensively employed including protective painting for all vehicles. Units carry camouflage equipment and material on all movements to compensate for the lack of natural means of camouflage. Maximum use is made of natural shadows in broken ground, dried out stream beds (wadies), and sand dune areas.

517. MOBILITY

Great freedom of movement is possible in desert areas, as few obstacles exist. The force that has the greatest mobility is the most effective. Movements are normally made for long distances and speed of execution is essential. Maintaining direction during movements is difficult because of the

absence of roads, trails, and landmarks. Navigational aids and dead-reckoning are used for direction.

518. SURPRISE

Despite the lack of concealment and the vast, flat, featureless stretches of terrain, ground visibility is usually poor in the desert. Surprise is facilitated by use of an aggressive counterreconnaissance screen, by speed of movement, and by deception. Dummy positions, decoy movements, and the operation of false radio nets aid in deception. Surprise may be gained if the movement of the force can be concealed. In open areas this is possible by moving to attack positions at night or during dust storms, when visibility is greatly limited. If the attacker moves with the sun at his back, he may also achieve surprise as the defender's visibility, when observing toward the sun, is greatly limited by the glare.

519. SECURITY

As the enemy has equal freedom of maneuver, all-around protection is necessary at all times. Formations and dispositions of units must permit entry into combat from all directions. Before an engagement, reconnaissance is made for such a distance that timely warning is given of hostile movements, strength, composition of troops, and the presence or absence of prepared defensive installations. Once battle is joined, reconnaissance is intensified to prevent surprise envelopments and is continued until the enemy is destroyed. The lack of natural concealment increases the difficulty of

security against enemy air action. Dispersion, camouflage, and warning devices are used as passive means of air security; active measures are used to their fullest extent.

520. OPERATIONS

In desert combat, emphasis is placed on maneuver because flanks are more accessible. Desert terrain favors envelopments and deep turning movements. Wide movements around an enemy flank are often possible without detection. Quick and flexible use is made of mobile forces to exploit any weakness or mistake of the enemy. Tanks, armored infantry, and motorized infantry with supporting arms form the fighting team best adapted to conditions of desert fighting.

Section VIII. AMPHIBIOUS OPERATIONS

521. GENERAL

a. For employment of the battalion landing team, see FM 60–5. For employment of the combat command and the armored division, see FM 17–100. For employment of tank companies, see FM 17–32. For armored division communications, see FM 17–70.

b. The armored division may support an amphibious operation, especially in the early stages of the land operations after a landing. In these situations, port facilities are usually not available and it is necessary to land units of the division from landing craft and landing ships. The tactical employment of the armored division and its elements is the same

as for any land operation. The armored infantry battalion is organized into combined arms teams and landed similarly to the battalion landing team (BLT) of the infantry division.

522. ROLE DURING ASSAULT LANDING

The armored infantry battalion is used in the establishment of a beachhead line only in an emergency. When so used, it operates and lands as a battalion landing team without carriers. Carriers are landed later on orders of higher headquarters.

523. EXPANDING A BEACHHEAD

When used to expand a beachhead, the battalion normally is employed as a reinforced battalion of a combat command. Carriers accompany the units so they can keep their mobility and fire power.

524. ATTACKING INLAND

The battalion may be used to drive inland separately or, as part of a larger force, to seize a strategic installation or tactically important terrain feature. When used in this manner, the battalion is landed with vehicles and employed as a reinforced battalion. Missions include the capture of definite objectives like air fields, communication centers, bridges, prominent terrain features, and towns or villages.

525. PLANNING

The planning of amphibious operations for armored units considers the vulnerability of the beachhead to enemy attack during the landing opera-

tions. Since reorganization after landing may be interrupted by enemy attack, the armored infantry battalion commander organizes his battalion and attached units into combined arms teams—a team for each landing ship assigned the battalion. Each team includes tanks, armored infantry, reconnaissance or liaison elements, armored engineers, and medical supply and maintenance units.

526. SIZE OF COMBINED ARMS TEAMS

a. The *tank* platoon is kept intact as it is the smallest fighting unit of tanks. If necessary to break up a tank company for loading, the tanks in company headquarters are assigned to a ship carrying at least one platoon of tanks. All tank officers plan to conduct the initial stages of the landing from their tanks if combat is anticipated.

b. The *armored infantry* rifle platoon is normally kept intact, but units as small as the rifle squad may be assigned to a combined arms team.

c. The *engineer* unit for a BLT should be no smaller than a platoon. *Maintenance crews* are assigned to ships carrying the greatest number of vehicles with which the crews are familiar. Tank recovery vehicles and maintenance wreckers are assigned to ships carrying the vehicles they can best serve.

527. TRAINING PRIOR TO EMBARKATION

Before embarkation, the armored infantry battalion conducts training similar to that given infantry units (FM 60–5) and tank units (FM 17–33).

Each combined arms team loaded aboard one ship trains together as a unit, to include practice loadings and landings.

528. WATERPROOFING OF VEHICLES

All vehicles to be landed from ship to beach are completely waterproofed before embarkation. Training in dewaterproofing vehicles is also done before embarkation. Waterproofing kits are provided by the ordnance for each type of vehicle. Ordnance personnel generally are available for the supervision of final phases of this work.

529. LOADING OF SHIPS

Ships are combat loaded to permit immediate and rapid debarkation in the order desired to support the scheme of maneuver. Within the convoy, when the battalion is embarked on more than one ship, vital supplies and equipment are dispersed throughout and complete units are loaded so that the loss of a ship or ships will not materially affect the tactical integrity of the battalion.

530. VOYAGE

a. Orientation. During the voyage to the objective area, officers of embarked troops are informed of their destination, mission, and the plans for the use of their units, if this information has not already been given them. Troop officers disseminate this, and information about hydrographic and beach conditions, terrain inland, and the enemy, to their respective organizations.

b. Abandoning Ship. Troops are thoroughly instructed and drilled in the procedure for abandoning ship. Assembly areas and routes to them are prescribed for all troops, and boats, rafts and debarkation nets are designated for each lower troop unit.

c. Training. Debarkation training on the way will include moving to debarkation stations if embarked on transports or to assigned vehicles if embarked on landing ships, with full equipment during darkened ship. Other training is given in aircraft recognition, familiarization with maps and aerial photographs to be used in the objective area, and such other subjects as unit commanders consider appropriate. Conditions aboard ship restrict normal physical exercise and movement. To keep troops physically fit for entry into combat, a supervised physical training program is conducted.

d. Maintenance. Weapons and personal equipment aboard ship are checked carefully and kept in the best possible condition. Vehicles are checked and maintenance is continuous. Mechanical equipment that deteriorates from lack of use is operated, and batteries are charged as necessary. Final checks of waterproofing are made and maintenance crews and equipment are utilized to the utmost.

531. DEBARKING OF VEHICLES

Tanks should be brought ashore as early as practicable. They form the striking power to engage any ground resistance met and to repel hostile armored counterattacks. The LST is an attractive target for enemy air attack; another reason tanks

are unloaded as soon as possible is to avoid loss or destruction while still aboard. Armored infantry and engineers debark dismounted if they are needed early. Supply and service vehicles have the lowest priority.

532. REORGANIZATION

a. At the destination, ships are unloaded according to plan. Troops and vehicles are moved to designated assembly areas. A battalion assembly area is designated where vehicles are dewaterproofed under the supervision of the battalion maintenance (motor) officer. After this dewaterproofing, the vehicles are dispatched as complete tactical units to their respective organizations under control of company maintenance officers. Guides lead vehicles to their units.

b. Personnel are moved dismounted to assembly areas where tactical units are reorganized and units are prepared for combat. Vehicles are dispatched to their units as soon as dewaterproofing is completed as outlined above.

Section IX. DEFENSE OF A RIVER LINE

533. GENERAL

Higher headquarters normally decides the type of defense to be conducted on a river line. The types of defense may be classified according to mission as mobile, position, normal frontage, or wide frontage.

534. MOBILE DEFENSE

In this method of defense small strong points are placed across the entire sector and along the river line. A large part of the strength is held well behind the river as a counterattacking force. This force strikes the enemy when he is astride the river or soon after he crosses. This type of defense uses the river to divide the enemy force, with the view of defeating him while so divided.

535. POSITION DEFENSE

A large part of the strength is placed on or near the river to stop the enemy advance at the river line. This type defense takes full advantage of the river to strengthen the defensive organization and stop the enemy.

536. NORMAL FRONTAGE

a. Where the river is an effective barrier and the terrain is suitable for close defensive fires, the MLR may be placed on the near bank of the river and the defense organized as in any other comparable terrain.

b. If the terrain at the river bank is unsuited for close defensive fires, the MLR may be removed from the river to get improved fields of fire. The defense areas are close enough to the river so that the near bank can be covered by rifle and machine gun fire. If the banks are steep and dead space exists, they may be covered by mortar fire and detachments posted at the top of the bank.

c. The terrain may be such that part of the MLR is placed on the river and the rest located behind the river bank.

537. WIDE FRONTAGE

Where extremely wide frontages are assigned, the defense of a river line corresponds to any defense of a wide front. The near bank of the river may be held lightly. The battalion, less units on or near the river, is then held mobile, ready to occupy any of the positions previously prepared to block the most likely hostile crossing points. The battalion reserve is prepared to counterattack to deny the enemy a foothold on the near bank.

538. SECURITY FORCES

If the MLR is on the near bank, the combat outpost is located across the river. If the MLR is withdrawn from the near bank, the combat outpost may be located on the near bank and patrols sent across the river.

539. FIRE PLAN

a. When the MLR is on the near bank, concentrations and barrages are planned to cover the most likely avenues of approach to the far bank and the probable crossing sites. Machine guns and other direct-fire weapons have large sectors of fire covering the avenues of approach and areas not covered by high-angle fire. When possible, machine guns are sited to fire final protective lines grazing the river or the far bank.

b. When the MLR is behind the river bank, concentrations are planned to engage the attacker as he approaches the far bank. Final protective fires on the near bank destroy the enemy as he attempts to gain a foothold.

c. When part of the defenses are located on the river bank and part behind the river bank, final protective fires provide the most effective protection for the battle position. All high-angle fires may be placed on the far bank or arranged so that the final protective fires follow the general trace of the MLR.

d. All means of crossing the river are removed or destroyed. Bridges are completely demolished so that a crossing cannot be made on the wreckage. Fords are destroyed or made impassable with obstacles and mines. The withdrawal of covering forces is carefully coordinated with the work of demolition crews.

e. Successful defensive combat on a river line requires rapid dissemination of information and orders. No one means of communication is relied upon to the exclusion of others. Combat outposts and patrols are provided with voice radios.

Section X. DEFENSE IN WOODS

540. GENERAL

a. Defense in woods is characterized by short fields of fire and lack of observation. Fires of riflemen and automatic riflemen are closely coordinated, antipersonnel mines are used, constant patrolling is done, local security groups are used extensively, and routes are prepared for the rapid shifting of reserves.

b. Distances and intervals between individuals and units are reduced. Reserve units are more likely to be held mobile for counterattack or to deal with infiltrating groups than they are in a defense of open terrain.

c. Those machine guns not in close support of the MLR are sited well forward to limit penetrations and protect the flanks of the forward elements of the battalion. Their crews prepare supplementary positions. Fire lanes are cut, through which bands of machine-gun fire are laid down along the front and flanks of organized areas. Terrain restrictions sometimes require the use of machine guns singly rather than in pairs. The 81-mm mortars are emplaced in openings in the woods, or openings are cut to make firing possible. Where possible, fires are registered before contact. The supporting artillery and mortars cover avenues of approach with defensive concentrations that can be fired without observation.

d. Constant patrolling is done to the front, flanks, and within the position. Local security groups are equipped with rapid means of communication, including radios, to give immediate warning of hostile advance. Successful defense depends upon vigilance, constant surveillance of hostile movements, close defensive fires, close combat, rapid counterattack, and the mopping up of groups that infiltrate the position.

Section XI. COMBAT IN JUNGLES

541. GENERAL

Jungle combat involves operations in a tropical area that is largely overgrown with dense vegetation. Offensive operations in such an area require

a high degree of leadership and individual initiative to meet the problems imposed by difficult terrain and hot, humid weather. These difficulties may be overcome by proper acclimatization, thorough training, and careful planning. For details of operation in jungles see FM 72–20.

542. EFFECT OF JUNGLE

a. The jungle affects offensive operations by restricting observation, limiting movement, restricting communication, and providing concealment from air and ground observation. Because of these factors, the situation is generally obscure. The maintenance of contact and control becomes paramount. Limited observation requires narrower frontages in the assault and reduced intervals and distance between units and individuals. It restricts the use of supporting fires. Limited observation may be partially overcome by an increased use of patrols, liaison parties, communications, and observation posts.

b. Jungle areas are characterized by a lack of good roads, the road net usually consisting of a few coastal roads and narrow, winding inland trails. The movement of armored units is generally limited to existing roads, beaches, and grass or bush-covered fields. The cross-country movement of tanks in dense jungle is almost impossible unless routes have been previously prepared. Sometimes they may operate in an area of tree-covered hills when the soil is trafficable.

c. Jungle terrain also restricts the use of communications. Radio range is greatly reduced be-

cause of the screening effect of dense vegetation and steep slopes. The effectiveness of radio depends upon its location and atmospheric conditions. In a slow-moving attack the telephone is the most satisfactory means of communication. Wire teams move with the assault echelon to provide prompt communication to the rear. Increased reliance is placed on dismounted messengers.

d. The jungle gives ideal concealment for offensive operations. This permits dismounted armored infantry to advance to assault positions close to the enemy. However, concealing foliage also gives opportunities for ambush and infiltration attacks, and requires increased security measures.

543. OFFENSIVE OPERATIONS

a. The principles for offensive combat apply to jungle combat. However, the factors of enervating climate, restricted observation, limited mobility, restricted communications, and concealment complicate maneuver and require a specialized application of these principles. Resourceful leadership, proper training, and suitable equipment will convert natural difficulties into relative advantages.

b. Jungle combat is essentially a fight by small dismounted armored infantry units which operate extremely close to the enemy. Often a tank platoon may be attached to an assault rifle company for the reduction of enemy automatic weapons by close-range fires. In close terrain, foot troops and tanks move together at the same rate of speed. When advancing together along a trail, foot troops generally precede the tanks at about 25 to 50 yards depending

on the terrain. As the advance progresses, the relative positions of riflemen and tanks are adjusted as necessitated by enemy resistance. At times the terrain may restrict deployment to the close vicinity of the trail and may limit operations to a one-tank front. In such a case, the tanks must be closely protected by patrols that reconnoiter for routes of advance, antitank guns, tank traps, or other antitank obstacles. Riflemen are designated to protect the flanks and rear of each tank. When the tanks are engaged and receiving heavy fire, riflemen deploy behind them to cover them from protected positions. Riflemen should not remain too close to the tanks because casualties may result from enemy fire concentrated on the tanks. Close terrain at times makes it necessary for a tank commander to expose himself from the turret in order to locate targets and maintain contact with nearby tanks. Tank crews do not button-up so tightly that they lose all communication or contact with the infantry.

c. The role of tanks is sometimes limited to fire support when the terrain makes it impossible for armored vehicles to take part in the assault. From stationary hull-defilade firing positions on or near the line of departure, tanks support the assault by overhead and flanking fire throughout its advance from the line of departure to the objective. A tank forward observer may go with the assault company to call for supporting fires.

544. COORDINATION

Close coordination between tank and armored infantry leaders is essential. In some cases, special

radio equipment helps this coordination. Direct communication is often maintained by telephone between the infantry leader advancing immediately behind a tank and the tank commander inside the tank. Information as to objectives, routes, and antitank resistance are reported by the armored infantry leader. This method permits tanks to be brought well forward and avoids the difficulties imposed by limited observation. In some instances it may be necessary for tank commanders to move forward on foot to have targets pointed out by the infantry.

545. DEFENSE

a. In light jungles, the principles of defense in woods generally apply. Consideration is given to adjoining areas that may contain dense jungle, and to hidden obstacles that may influence the capabilities of the enemy and contemplated operations. Thorough and continuous ground reconnaissance is indispensable because of the limited effectiveness of security elements and the high degree of concealment from air observation provided the enemy by even light jungle. Dense jungle imposes severe limitations on the defensive use of weapons because observation is often limited to a few yards. These factors, along with the restriction of maneuver and control, place the highest premium on planning, coordination, and small-unit leadership.

b. In a dense jungle, a front-line battalion operating as part of a larger force may be assigned a frontage of less than 1,200 yards. Troops are disposed along the MLR with minimum intervals between fox holes and no gaps between units. The

reserve company is held nearer the MLR than usual. Interior front-line rifle companies often use all rifle platoons abreast. Security elements normally are provided by the front-line battalions. They consist of small groups, dug in for all-around defense, to cover trails and other approaches to the position, delay the enemy, and warn of his approach.

c. In the jungle, as in densely wooded areas and in mountains, battalions and smaller units often operate independently. When operating alone, units are prepared to defend against an enemy attack from any direction (FM 72–20).

546. MAINTENANCE

Maintenance of tanks, carriers, and other vehicles in jungles is extremely difficult. The damp heat of tropical areas requires that special care be given to all weapons and other nonrustproof equipment in daily or frequent use. The humidity and mud combine to make weapons maintenance particularly difficult. In hot, humid climates, all weapons require light or special preservative lubricating oil. In salt-water atmospheres, medium preservative lubricating oil should be used. Electrical equipment and radio systems also require special care.

Section XII. DEFENSE IN BUILT-UP AREAS

547. GENERAL

The use of a built-up area in the organization of a defensive position depends on its size, its location, and the increased protection gained from it. Inflammable material gives little protection and may

become a hazard to the defender. Buildings of masonry can be developed into well fortified defensive positions or islands of resistance. A built-up area that can be avoided easily has little defensive value. To be useful it must be located to force the enemy to a direct attack or a time-consuming maneuver (FM 31–50).

548. DEFENSIVE POSITION

a. The defense of a built-up area is comparable to the defense of any battle position. The organization of a built-up area is influenced by—

(1) Limited observation for the attacker and the defender.
(2) Reduced fields of fire and effectiveness of indirect fire weapons.
(3) Restricted communication.
(4) Increased cover and concealment for troops and weapons.
(5) Many obstacles, which limit maneuver of troops and tanks.

b. When using a built-up area, the MLR is placed well forward in the area. This prevents the enemy from entering the outskirts and massing his troops and direct-fire weapons under that protection. The selected MLR does not present a clearly defined edge on which the attacker can mass his supporting fires. When the MLR is located back from the actual edge, all approaches to the built-up area and the edge itself are occupied by security elements. They provide observation, give warning, and adjust supporting fires.

549. DISTRIBUTION OF TROOPS

a. Cities and Towns (fig. 85). The frontage and depth assigned to units defending a built-up area are less than normal. A battalion on the MLR in a city or town usually has a frontage of four to eight city blocks (average block being 200 yards). The amount assigned depends on the defensive strength of the locality. The depth of the defensive area is from three to six city blocks. The MLR is generally located along streets. Boundaries are placed along streets that are perpendicular to the MLR. They extend to streets parallel to the MLR. If all four rifle companies of the battalion are present, three rifle companies may be placed on the MLR and one held in reserve. If only three rifle companies are present, two are usually placed on the MLR and one is held in reserve. Each unit is assigned a clearly defined area of responsibility and is organized as a self-sustained unit. These areas are mutually supporting and capable of all-around defense. To provide fields of fire, open areas within the town are defended from the near side. Reserves organize positions across the rear part of the assigned area. These add depth to the position and give flank protection.

b. Villages. The MLR may be outside the village, in which case a normal defensive position is organized. It may be within the village to use its natural defensive capabilities. When the MLR is within the village, the defense resembles that of a town or city. When terrain features dominate the village, they also are secured (fig. 86).

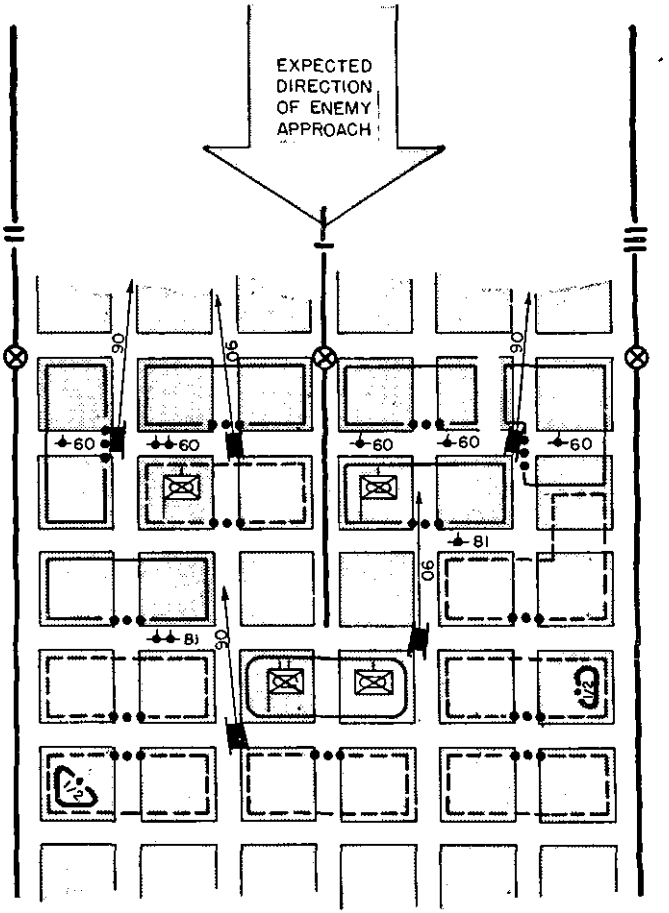


Figure 85. Defense in a city (schematic).

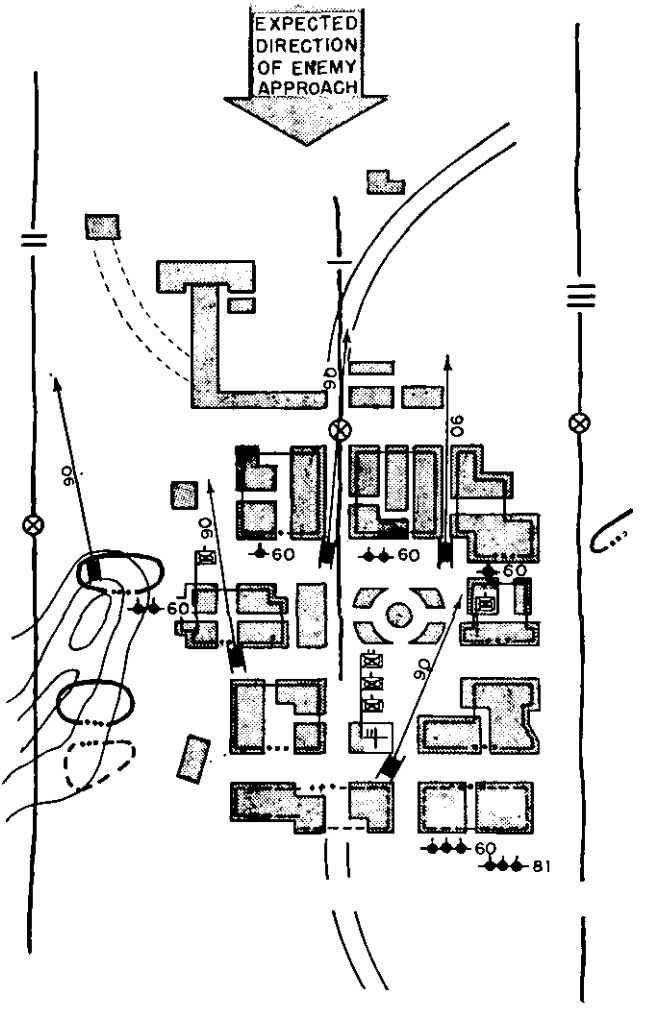


Figure 86. Defense in a village (schematic).

550. USE OF WEAPONS

a. Units prepare for speedy movement of supporting weapons to alternate and supplementary positions. Such preparations include cutting passages through buildings. When fields of fire are short within the built-up area, machine guns may be used singly. These weapons are sited to place flanking fire on streets and to secure interlocking bands of fire across the front and flanks of the position. Machine guns assigned close defensive missions are emplaced on or near ground level to command avenues of approach. Rear machine guns may provide long-range fires from upper stories of well-constructed buildings.

b. If the 81-mm mortars cannot be fired by battery, they may be divided into sections with one squad in direct support of each front-line company.

c. Tanks cover street intersections, street barricades, open streets, parks, and other areas along which enemy armor can approach. When enemy armor is not a great threat, tanks may engage targets of opportunity. The built-up area and the debris from destroyed buildings limit tank maneuverability. For that reason, tanks normally are located in or near direct firing positions.

551. FIRE PLAN

If the MLR is along a street, the fires of automatic weapons are coordinated on the street. Barricades for machine guns are constructed in entrances to buildings or other places far enough from street in-

tersections to be out of the line of fire directed down the approaches. Concentrations are planned to cover hostile assembly areas and approaches to the position, to limit penetrations, and to support counterattacks. Barrages cover approaches like streets, open areas, and areas of light construction.

552. BATTALION RESERVES

Reserve elements, after preparing their positions, select and prepare concealed routes for counterattack. When necessary, passages are cut through buildings. After organizing its assigned area, the reserve unit may be assembled in an area from which it can move to reinforce front-line companies, or it may move to other prepared positions in the rear of the battalion area. Small holding garrisons are left in each defense area. Elements of the reserve may be employed initially on security missions.

Section XIII. DEFENSE AGAINST AIRBORNE ATTACK

553. FRONT-LINE BATTALIONS

The front-line battalion in sustained defense disposes its units to cover by fire all or most of its assigned area. Therefore, it is seldom practicable for an attacker to land airborne troops in such an area. If a landing is attempted there, all troops continue to occupy their positions and destroy the attacker by fire. If this fails, the battalion reserve company counterattacks.

554. BATTALIONS IN REAR AREAS

Units in rear areas are used in whole or in part to defend against airborne operations.

a. During Hostile Reconnaissance. Concealment and camouflage neutralize air reconnaissance. Extensive dummy positions are constructed. During air bombardment, troops take cover, fire on low-flying hostile planes only if ordered, and keep ready to meet an attack. Movement necessary during a bombardment is made quickly in dispersed formations and by covered or concealed routes.

b. During Hostile Landings. The defender tries to destroy the attacker during and immediately after his landing. All defending troops near the landing immediately resist, regardless of their own number or the size of the hostile attack. Units already on the ground have a temporary superiority in combat power over those just landed or attempting to land. The attacker's aircraft can give little close support to landing groups until they are well along in reorganization and assembly. Before this their exact dispositions are not known to their air units. During the initial landings airborne troops are particularly vulnerable to counterattack by armored vehicles. The defender uses all available armored vehicles immediately, without extensive reconnaissance, to destroy landing groups and their equipment as soon as the landing is made.

c. Counterattack. Should the attacker gain his objective and land reinforcements, the defender destroys or captures him and regains the lost area. The commander may launch an immediate counterattack or he may occupy a defensive position to block

further hostile advance and to form a base for counterattack by a larger force. In either case all available fire is used to prevent the attacker from assembling and reorganizing.

555. CONDUCT OF DEFENSE AGAINST AIRBORNE ATTACK

a. Because parachute troops can land almost anywhere, defending troops cannot be disposed to bring coordinated fire on all of them as they descend. Plans provide for an immediate counterattack, careful reconnaissance for firing positions and routes, provisions for a mobile reserve, establishment of a warning system with observation and surveillance of the entire area, and preparation of concealed and camouflaged defensive works. Plans of fire and maneuver are prepared and rehearsed so that friendly elements do not fire into one another. The size of the area defended, its road net, and the available transportation and communication influence the battalion commander's plans. He may hold the bulk of his forces mobile after establishing a warning system; he may assign small fixed defensive groups to the important areas, holding out one or more mobile reserves; or he may divide his entire battalion into defending groups, and assign each group an important area.

b. Rapid *communication* between the battalion observation posts and higher echelons is essential. Wire communication may be destroyed by enemy airborne troops; therefore, radio, motor messengers, and pyrotechnic and other visual signals are provided to all elements.

c. Alertness is required in all echelons. Observers in each area are constantly on duty to warn of air or ground attack from any direction. There is no front, and each unit must be prepared to strike in any direction.

Section XIV. PERIMETER DEFENSE

556. GENERAL

In a perimeter defense, a unit is disposed so that it is able to stop with equal efficiency an enemy attack from any direction. In close terrain it may be necessary to organize the perimeter similar to a sustained-defense. When the terrain permits, the perimeter is organized flexibly and in depth. This type of perimeter defense uses to a greater advantage the mobility of armored units. Security is aggressive and planned to gain early information of the enemy and direction of his attack. A perimeter defense is conducted generally the same as other defensive situations.

Section XV. OPERATIONS AGAINST GUERILLAS OR IRREGULAR FORCES

557. GENERAL

a. Guerillas and irregular forces normally operate as independent or semi-independent groups. They may be political refugees, malcontents, specialists in subversive activity, or bands of former regulars, dispersed in regular conflict and evading capture. The extent of their activities depends on the quality of leadership, supplies, communication, and the

geography of the area. The principal purposes of their actions are to prevent the movement of supplies, troops, and reinforcements; to disrupt and destroy communications; and to cause a diversion of forces from the main battle area by persistent harassment and sabotage.

b. Their activity may be either small nuisance raids or large scale attacks on key installations, supply dumps, or troop units. Their efforts are usually most effective when directed and coordinated by the highest authority against targets of strategic importance. Normally individual members of the group disperse before and immediately after an attack. Control of the group is maintained, however, to insure proper direction of subsequent operations. Every effort is made to achieve surprise by superiority in numbers at the time and place of attack. Emphasis is placed on small-unit leadership, careful planning, and accurate and timely intelligence. It is essential, from the guerilla's point of view, that the attack be made under circumstances which permit them to break off the engagement at will and to avoid prolonged combat. Because of their lack of weapons, supplies, communication, and administrative echelons, they do not enter sustained combat.

558. EFFECT OF GUERILLA ACTIVITY AGAINST ARMORED INFANTRY

The operations of hostile guerillas can affect armored infantry units by—

a. Forcing the use of armored infantry in an organized campaign against the guerillas.

b. Causing armored infantry to be used in a passive defense and occasional direct attack against guerillas who may operate behind friendly lines.

c. Forcing dissipation of armored infantry in a defense of its elements while operating with the armored division on exploitation or pursuit missions.

559. OFFENSIVE OPERATIONS

Armored infantry is normally committed against guerilla forces as it is in any offensive action. However, special emphasis must be placed on rapid movement to the area of contemplated attack and gaining all the surprise possible, and a maximum effort is made to surround the guerilla forces. Guerilla forces that are not surrounded and either killed or captured, quickly withdraw, regroup, and attack elsewhere. Normally guerilla forces operate from and attack in terrain that is wooded, mountainous, swampy, or otherwise inaccessible. Armored carriers and attached tanks in any number normally are not used. Movement and fighting is on foot; communication is by dismounted means. Care must be taken however that armored carriers, tanks, and wheeled vehicles are adequately guarded. During movement, security is obtained by advance, flank, and rear guards, and by reconnaissance patrols and observers. The size of the security force may vary from a few men to a large part of the whole command, depending on the degree of contact with the hostile force and knowledge of the enemy's location and dispositions. When intelligence reports indicate contact is imminent, the security forces are increased. When contact is gained and the main body

engaged, security of the flanks and rear becomes imperative. The reconnaissance platoon is suitable for reconnaissance and security missions during all phases of operations where the road net is adequate. Foot troops are used in areas that are impassable to motorized or mechanized elements.

560. EMPLOYMENT

a. Speed and aggressiveness are imperative when guerilla forces are contacted. The main objective is to encircle and close the escape routes available to them. This is done before a coordinated reaction to the encirclement can be accomplished, especially if tactical surprise has been obtained. Less aggressive action, such as a detailed search, gives the guerillas time to react or escape. Commanders must be bold and determined in their decisions. Unless encirclement is achieved by the main force, premature aggressive action by forces unable to finish destruction before nightfall is unsound. In general, when contact is made with unalerted guerillas or irregular forces late in the day, it is better to complete the encirclement during darkness than to begin action that cannot be completed before dark. Premature combat is likely to put the enemy to flight before decisive action can be taken by adequate forces. Carefully calculated action, exact timing, and speed are essential. When circumstances require combat with forces that cannot be destroyed or encircled before darkness, contact is maintained throughout the night. The enemy can be expected to attempt escape during the night or to thin out his forces during daylight and to break contact during darkness.

b. Pursuit is vital to the maintenance of contact and is launched when guerillas or irregular forces attempt to flee, day or night. Once the main enemy forces have started moving, they are kept moving until they are finally brought to decisive action. During the action, the commander is well forward where he can observe the action. He issues his attack order from such a point. Armored infantry does not return fire from enemy long-range weapons, but moves rapidly until within small arms range of the enemy positions.

c. Lower unit commanders observe the advancing riflemen closely. They influence the action by aggressively executing their superior's orders and by immediately using their own initiative.

561. OPERATIONS AGAINST ORGANIZED POSITIONS

Guerilla bases that are needed for their future operation are defended with tenacity and violence. They are well organized for a strong and protracted defense, and unlike lightly armed mobile striking bands, make full use of available heavy equipment like artillery, heavy mortars, and flame throwers. Their leadership in these defenses is bold and intelligent. Operations against these positions are planned and executed with the same thoroughness and coordination as any coordinated attack.

562. ACTION AGAINST GUERILLAS OPERATING BEHIND FRIENDLY LINES

Conditions that favor large-scale guerilla activity behind friendly lines are areas of rugged terrain,

roads that are narrow and winding, and centers of population that are hostile. Personnel of the armored infantry unit must be psychologically prepared to meet sudden attacks. All commanders down to the squad leader must be impressed with the need for secrecy, particularly about troop movements; for alertness and readiness in case of sudden attacks; and the use of roads and trails that offer the least concealment for guerillas. All trucks or carriers that move in guerilla territory should have tarpaulins or other covers in place to conceal troops or cargo.

563. ACTION AGAINST GUERILLAS WHILE IN EXPLOITATION OR PURSUIT

a. Pursuit and exploitation missions that extend well within enemy rear areas make the long columns of combat and supply vehicles especially vulnerable to attack. Combat echelons rely on speed and surprise in the capture of objectives.

b. Supply echelons are largely dependent on the combat units for protection. Truck convoys moving to and from supply dumps may need combat troops. Individual vehicular movement and small convoys are kept to the minimum. Reconnaissance of areas already overrun must be continuous. Light aircraft are useful for this purpose. While the attack is moving ahead, supporting supply vehicles remain as close as practicable to combat echelons for protection.

c. During the attack and until the entire area is subjugated, every member of armored infantry

units is prepared to meet sudden and concentrated guerilla attack. Individual and crew-served weapons must be in a state of constant readiness. Disabled vehicles are towed forward with the main attacking force or are destroyed rather than left to fall into the hands of guerillas. Radio provides the only reliable means of communication and is kept in a constant state of readiness and repair. All moves (*administrative or tactical*) use combat formations. Vigilance is never relaxed against infiltrating guerillas or hostile civilian informers. Liaison with friendly combat aviation units must be close, both for support and for high speed air reconnaissance.

564. INTELLIGENCE AND COUNTERINTELLIGENCE

a. Current and accurate information is difficult to obtain because of the very nature of irregular forces. Their organization is loose and flexible and the compiling of accurate order-of-battle intelligence is difficult. They usually lack standard uniforms and insignia, making the identification of individuals and units a problem. Their high mobility, light and irregular equipment, hit-and-run tactics, and ability to disperse as individuals or very small groups also complicates identification. Agents and informers are reluctant to give information for fear of reprisals by the irregular forces.

b. In spite of these difficulties, accurate and timely intelligence can be produced. As in other operations, the individual soldier is very valuable in collecting enemy information. Lower unit commanders

and their troops immediately report all observations of the enemy and the terrain. Prisoners of war, deserters, repatriates, local inhabitants, and captured documents are excellent sources of information. Secret agents are extremely valuable. They can penetrate positions not accessible to uniformed troops and are most useful if drawn from the areas where the irregular forces are located. Their selection, training, briefing, and handling are conducted under immediate supervision of the intelligence officer. Knowledge of their activities is restricted to those individuals requiring it in line of duty.

c. Irregular forces invariably have a highly organized espionage system. Routine counterintelligence measures are supplemented to prevent the enemy from gaining information of plans and activities, and to destroy the effectiveness of his intelligence system.

Section XVI. OPERATIONS THROUGH MINE FIELDS

565. LOCATING MINE FIELDS

a. FM 5–31 covers methods of detecting mine fields.

b. Mine fields should be expected in the following locations:

(1) In areas of prepared enemy defenses.
(2) On avenues of approach to enemy positions.
(3) Near enemy antitank guns.
(4) On beaches and just off shore (figs. 87 and 88).

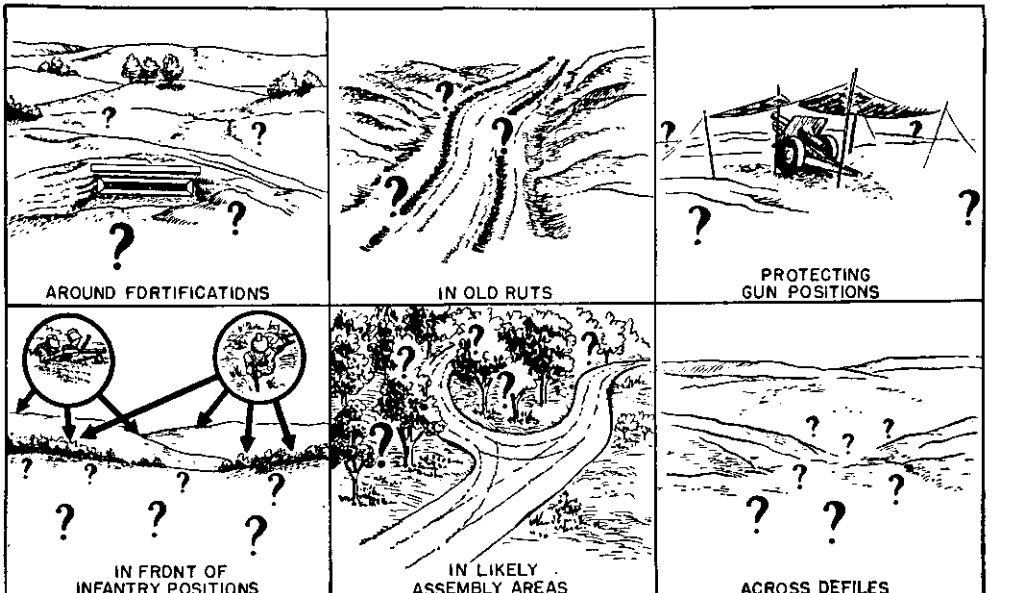


Figure 87. Likely locations for mines.

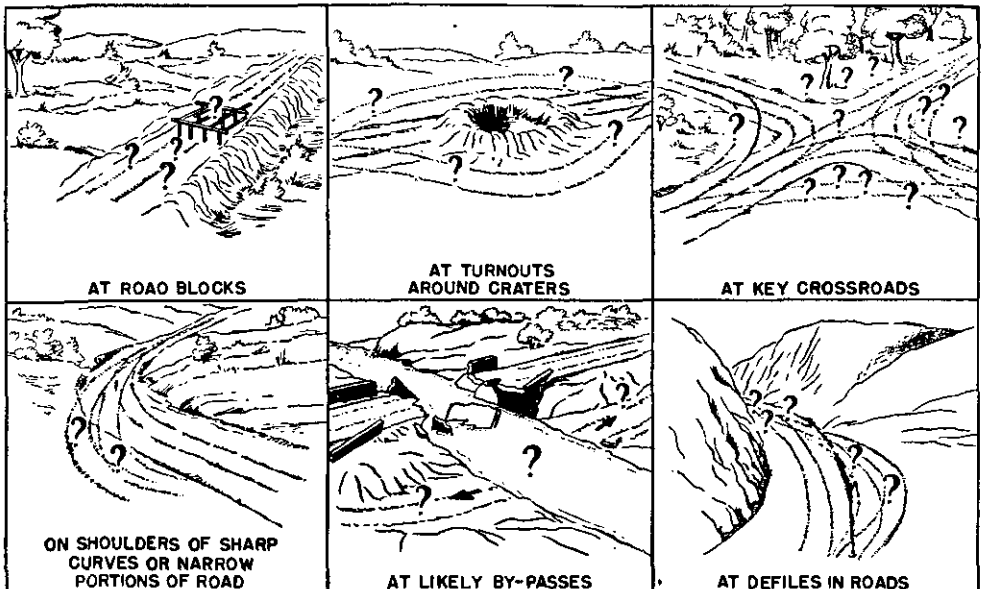


Figure 88. Other likely locations for mines.

c. Nuisance mines may be expected in the following locations:

(1) On roads.
(2) On the shoulders of roads, especially at turnouts, turns, and defenses.
(3) In parking areas.
(4) At culverts.
(5) At crossroads and road junctions.
(6) In areas favorable for troop concentrations.

566. ACTION ON ENCOUNTERING A MINE FIELD

a. If a mine field is detected before the unit has been committed—

(1) A reconnaissance is made for possible enemy antitank guns and machine guns that may be covering the field.
(2) The tanks support and cover by fire the infantry's advance and reconnaissance of the mine field.
(3) A coordinated attack to establish a bridgehead over the mine field may be required if it is defended.
(4) One of the methods described in paragraph 567 is used to breach the field.

b. Mine fields discovered during an attack may or may not be covered by enemy fire. For mine fields covered by fire, the following action is taken:

(1) If a tank or armored personnel carrier is disabled by an exploding mine, nearby tanks stop and fire smoke to screen the disabled tank and, if necessary, themselves. All

reconnoiter by fire and observe for antitank guns that may be covering the mine field.

(2) Behind this smoke, the crew of the disabled tank or carrier usually evacuates the vehicle. However, if the tank's weapons are still usable and the surrounding terrain gives some cover or concealment, the crew may continue to fight from the tank. Evacuating crew members take cover promptly, because the mine field is probably covered by mortars and by machine guns, sighted so as to fire effectively through smoke. Crew members must also beware of antipersonnel mines.

(3) Maneuvering tanks and carriers back to cover, following exactly the same route that they used to move forward.

(4) Neutralizing fire is placed on any enemy antitank guns located. This fire may be supplied by tanks, by the battalion mortar platoon, by supporting artillery, or by other troops in the area.

(5) If the disabled vehicle is not under heavy enemy fire, it is withdrawn by a tank recovery vehicle, using a tow bar, or by another tank or carrier if no recovery vehicle is available. Crew members reconnoiter the terrain for mines before the recovery vehicle advances.

(6) Reconnaissance is begun immediately to determine the edge, the depth, and the width of the mine field.

567. BREACHING OF MINE FIELDS

After a mine field has been discovered and has been carefully reconnoitered for forward edge, width, depth, additional obstacles, antitank guns, and antipersonnel mines, it may be breached in a number of ways.

a. Probing. This method is used by armored infantry or engineers as follows:

(1) Protected by darkness, smoke, or heavy fire, dismounted armored infantry move through the mine field and establish a bridgehead.

(2) Mines are located and removed by probing parties, using the methods prescribed in FM 5–31.

(3) Some tanks are immediately moved through the gap to provide antitank protection in the bridgehead.

(4) The bulk of the tanks and carriers move through the gap to an assembly area within the bridgehead.

(5) The attack is continued.

b. The Snake. A mine field may be breached by use of an explosive snake. FM 5–31 gives a full description of the operation.

c. Other Means. Each platoon of the armored engineer battalion has an engineer armored vehicle equipped with various devices for mine detection and clearing. These vehicles will gap mine fields but must be given protective fires from behind the field and, when possible, by armored infantry bridgeheads.

APPENDIX I

REFERENCES

1. ENGINEER

FM 5–25, EXPLOSIVES AND DEMOLITIONS.
FM 5–31, LAND MINES AND BOOBY TRAPS.
TM 5–271, LIGHT STREAM-CROSSING EQUIPAGE.

2. FIELD ARTILLERY

FM 6–20, TACTICS AND TECHNIQUE.
FM 6–130, FIELD ARTILLERY INTELLIGENCE.

3. INFANTRY

FM 7–10, RIFLE COMPANY, INFANTRY REGIMENT.
FM 7–15, HEAVY WEAPONS COMPANY, INFANTRY REGIMENT.
FM 7–20, INFANTRY BATTALION.
FM 7–25, HEADQUARTERS COMPANY, INFANTRY REGIMENT.
T/O&E 7–25N, ARMORED INFANTRY BATTALION.

T/O&E 7–26N, HEADQUARTERS AND HEADQUARTERS AND SERVICE COMPANY, ARMORED INFANTRY BATTALION.

T/O&E 7–27N, RIFLE COMPANY, ARMORED INFANTRY BATTALION.

4. ARMORED

FM 17–22, RECONNAISSANCE PLATOON AND RECONNAISSANCE COMPANY.

FM 17–32, TANK PLATOON AND TANK COMPANY.

FM 17–33, TANK BATTALION.

FM 17–34, AMPHIBIOUS TANK AND TRACTOR BATTALION.

FM 17–35, RECONNAISSANCE BATTALION, ARMORED DIVISION.

FM 17–50, LOGISTICS ARMORED DIVISION.

FM 17–70, SIGNAL COMMUNICATIONS IN THE ARMORED DIVISION.

FM 17–100, ARMORED DIVISION AND COMBAT COMMAND.

5. SIGNAL

TM 11–2552, SOUND LOCATING SET GR–6.

6. MISCELLANEOUS

DICTIONARY OF UNITED STATES MILITARY TERMS FOR JOINT USAGE.

AR 345–5, PERSONNEL MANAGEMENT—PERSONNEL RECORDS.

AR 380–5, SAFEGUARDING MILITARY INFORMATION.

SR 110–1–1, INDEX OF ARMY MOTION PICTURES AND FILM STRIPS.

SR 310–20–3, MILITARY PUBLICATIONS.

SR 310–20–4, MILITARY PUBLICATIONS.

SR 320–5–1, UNITED STATES ARMY TERMS.

ATP, INFANTRY REGIMENT, T/O&E 7–11N.

ATP, ARMORED INFANTRY BATTALION, T/O&E 7–25N.

7. INDIVIDUAL SOLDIER

FM 21–8, MILITARY TRAINING AIDS.

FM 21–18, FOOT MARCHES.

8. MILITARY INTELLIGENCE

FM 30–5, MILITARY INTELLIGENCE—COMBAT INTELLIGENCE.

FM 30–10, MILITARY INTELLIGENCE—OBSERVATION.

FM 30–25, MILITARY INTELLIGENCE—COUNTERINTELLIGENCE.

9. SPECIAL OPERATIONS

FM 31–25, DESERT OPERATIONS.

FM 31–35, AIR-GROUND OPERATIONS.

FM 31–50, ATTACK ON A FORTIFIED POSITION AND COMBAT IN TOWNS.

10. AMPHIBIOUS

FM 60–5, AMPHIBIOUS OPERATIONS, BATTALION IN ASSAULT LANDINGS.

11. JUNGLE

FM 72–20, JUNGLE WARFARE.

12. FIELD SERVICE REGULATIONS

FM 100–5, OPERATIONS.

13. STAFF OFFICERS

FM 101–5, STAFF AND COMBAT ORDERS.
FM 101–10, ORGANIZATION, TECHNICAL AND LOGISTICAL DATA.

APPENDIX II

SQUAD, PLATOON, AND COMPANY ORDERS

Section I. SQUAD AND PLATOON ORDERS

1. SQUAD ATTACK ORDER

Based on the platoon attack order, the squad leader issues his attack order to all the men of his squad. When his men cannot see their route of advance before the start of the attack, the squad leader supplements his order with a sketch showing the important terrain features. Orders can be followed only when they are clear and definite enough so that all men in the squad understand the squad mission and the plan for accomplishing that mission. The squad leader's order includes:

a. Information of the enemy and friendly forces, including the location and proposed action of adjacent squads.

b. Mission of the squad and the plan for its accomplishment.

c. Duties of individual members of the squad, to include instructions for reorganization on the objective.

d. Employment or disposition of the squad's armored personnel carrier.

e. Details of tank-armored infantry teamwork.

f. Necessary administrative details.

g. Prearranged signals.

h. Location of the squad and platoon leaders.

2. PLATOON ATTACK ORDER (Check list)

a. Based on the company attack order the platoon leader issues his order at a previously selected observation post. He orients his squad leaders by pointing out important terrain features. The platoon order includes:

(1) All pertinent enemy information; information of our own troops, including the company objective, the missions of adjacent units, and the support expected from elements of the battalion mortar platoon, and the artillery.

(2) Platoon objective, line of departure, hour of attack, formation, and direction of attack.

(3) Method of attack (details of tank-armored infantry coordination).

(4) Line or area of departure for each squad, the mission or targets of each squad, security measures, and instructions for reorganization on the objective.

(5) Employment or disposition of the platoon's carriers to include the use of vehicular weapons.

(6) Location of the battalion aid station, and other necessary administrative details.

(7) Communications instructions, including prearranged signals for tank-armored infantry communication; the platoon leader's location; and the location of the company command post.

b. The platoon leader makes certain that all squad leaders understand the order. On receiving the order, the squad leaders prepare for the attack.

Section II. ARMORED RIFLE COMPANY ORDERS FOR ATTACK AND DEFENSE

3. ATTACK

1. GENERAL SITUATION

a. Information of the enemy to include:

(1) Composition.
(2) Location.
(3) Strength.
(4) Identification.

b. Information of friendly troops to include:

(1) Mission and location of next higher unit.
(2) Mission and location of adjacent units.
(3) Mission and location of supporting units.
(4) Mission and location of covering forces.

2. MISSION

a. Statement of the task to be accomplished by the company.

b. Details of coordination to include:

(1) Objective.
(2) Time of attack.
(3) Frontage.
(4) Direction of attack.
(5) Line of departure.
(6) Boundaries.
(7) Formation.

(8) Method of attack.
(9) Utilization or disposition of carriers to include details of employment of vehicular weapons.

3. TASKS FOR SUBORDINATE UNITS (TACTICAL INSTRUCTIONS)

a. These tasks are given under as many lettered subparagraphs as may be necessary, assigning one paragraph to each platoon or reinforced platoon and attached unit in a sequence that designates the forward elements first. The instructions given include:
(1) Organization of reinforced platoons.
(2) Mission (objective).
(3) Frontage of attack.
(4) Direction of attack.
(5) Reorganization on the objective.

x. Tactical instructions or information (except signal instructions) common to two or more units, or to the entire company, not covered elsewhere in paragraph 3 of the order. The instructions include:
(1) Security measures.
(2) Special measures for control and coordination.

4. ADMINISTRATIVE AND LOGISTICAL MATTERS. Instructions of immediate importance to tactical units concerning personnel, supply, and evacuation that are required for the operation. These include:

a. Arrangements for feeding.
b. Arrangements for resupply.

c. Amount of ammunition to be carried after dismounting from carriers.

d. Location of battalion aid station.

5. COMMAND AND SIGNAL MATTERS

a. Orders for the use of signal communication to include:

(1) Radio.

(2) Wire.

(3) Pyrotechnics.

(4) Details of tank-armored infantry communication.

(5) Communication security.

b. Command posts and axis of signal communication to include:

(1) Location of battalion CP.

(2) Location of company CP or where messages will be sent.

(3) Tentative location of the company commander during the attack on the objective.

4. DEFENSE

1. GENERAL SITUATION

a. Information of the enemy to include:

(1) Composition.

(2) Location.

(3) Movements.

(4) Strength.

(5) Identification.

(6) Direction from which enemy attack is expected.

(7) Time when enemy attack is expected.

b. Information of friendly troops to include:

(1) Mission and location of next higher unit.

(2) Mission and location of adjacent units.

(3) Mission and location of supporting units.

(4) Missions and location of security forces.

2. MISSION.

a. Statement of the tasks to be accomplished by the company.

b. Details of coordination to include—

(1) Formation.

(2) Boundaries.

(3) General trace of MLR (area to be outposted in mobile defense).

(4) Limiting points.

3. TASKS FOR SUBORDINATE UNITS (TACTICAL INSTRUCTIONS).

a. These tasks are given under as many lettered subparagraphs as may be necessary, assigning one paragraph to each platoon and attached unit in a sequence that designates the forward elements first. The instructions include:

(1) Areas and missions of each rifle platoon.

(2) Fire control, to include details relative to tank fires and the calling for final protective fires.

x. Tactical instructions (except signal instructions) common to two or more units, or to the entire company, not covered elsewhere

in paragraph 3 of the order. The instructions given include:

(1) Security measures.

(2) Organization of ground to include type of emplacements and priorities of work.

(3) Location of mine fields and obstacles.

(4) Disposition of carriers to include vehicular weapons.

4. ADMINISTRATIVE AND LOGISTICAL MATTERS. Instructions to tactical units concerning personnel, supply, evacuation, and traffic details which are required for the operation. These include:

a. Arrangements for feeding.

b. Amount of ammunition to be placed on position.

c. Battalion combat trains and arrangements for the distribution of ammunition.

d. Location of battalion aid station and company aid men.

e. Sanitation measures.

5. COMMAND AND SIGNAL MATTERS. Orders relative to employment of means of signal communication to include:

a. Radio.

b. Wire.

c. Pyrotechnics.

d. Communication security.

e. Command posts.

f. Location of company and platoon command posts.

g. Alternate locations.

APPENDIX III

COMBAT FORMATIONS

Section I. COMBAT FORMATIONS—MOUNTED

1. PURPOSE AND SCOPE

The primary purpose of mounted drill in armored infantry units is to facilitate control in combat. The drills prescribed here are battle formations at decreased intervals. They are adaptable to any type of armored infantry unit.

2. BASE

a. In general, during drill, the commander's vehicle is the base element, except as otherwise shown in the figures in this appendix. He leads the unit in the direction and at the speed desired.

b. In column and echelon formations, the base is the leading element.

c. In line, wedge, and diamond formations, the base is normally the center or right center vehicle.

d. To gain proficiency in drill, base vehicles may be rotated. All vehicles regulate and guide on the base.

3. INTERVALS AND DISTANCES

a. In close order mounted drill, intervals and distances are normally 25 yards. However, this dis-

tance may be varied to conform to the tactical situation, terrain, and mission.

b. In extended order drill, intervals and distances are variable, usually 50 to 100 yards.

c. For march formations see paragraph 49, chapter 2.

d. Increase or decrease of intervals or distances may be obtained at any time by the command or signal EXTEND or CLOSE.

e. On halting, intervals or distances are maintained unless preceded by the command or signal CLOSE. If in extended order formation, on command CLOSE intervals and distances are decreased to those prescribed for close order drill; if in close order formation, on command CLOSE they are decreased to 5 yards. When closed to 5 yards, no further evolutions of drill are executed. Close order intervals and distances are taken upon moving out unless otherwise prescribed.

4. SPEED

a. In close and extended order drill, the base vehicle moves at a uniform rate of speed (par. 2).

b. Other vehicles, when necessary, vary their speed gradually during movements to conform with the base or to complete movements.

5. CHANGES IN DIRECTION

a. In changing the direction of a unit, the leader conducts the base element in the new direction on the arc of a circle so that the pivot is able to turn on the minimum of radius.

b. If the unit is in a column formation, vehicles behind the base change direction successively in the same manner and on the same ground as the base.

c. If the unit is in any formation except column, other vehicles regulate on the base and maintain their relative positions.

6. PLATOON FORMATIONS

The following formations are readily adaptable to the armored infantry rifle platoon (fig. 89):

a. Platoon column. Each vehicle placed one behind another.

b. Platoon line. All vehicles of the platoon abreast of each other.

c. Platoon wedge. Two vehicles forward on line, with remaining two vehicles displaced one each to the right and left rear.

d. Platoon echelon left (right). Each vehicle displaced progressively to the left (right) rear of the base in the platoon.

e. Platoon diamond. Base vehicle forward, with second and third vehicles echeloned to the right and left rear respectively; the fourth central rear of the first three.

7. METHODS OF ASSUMING FORMATIONS

a. Line and *wedge* formations are gained from any column formation by a fan-shaped deployment toward either side of the base. The base vehicle continues its movement. The second vehicle moves to the right of the first and the third and fourth

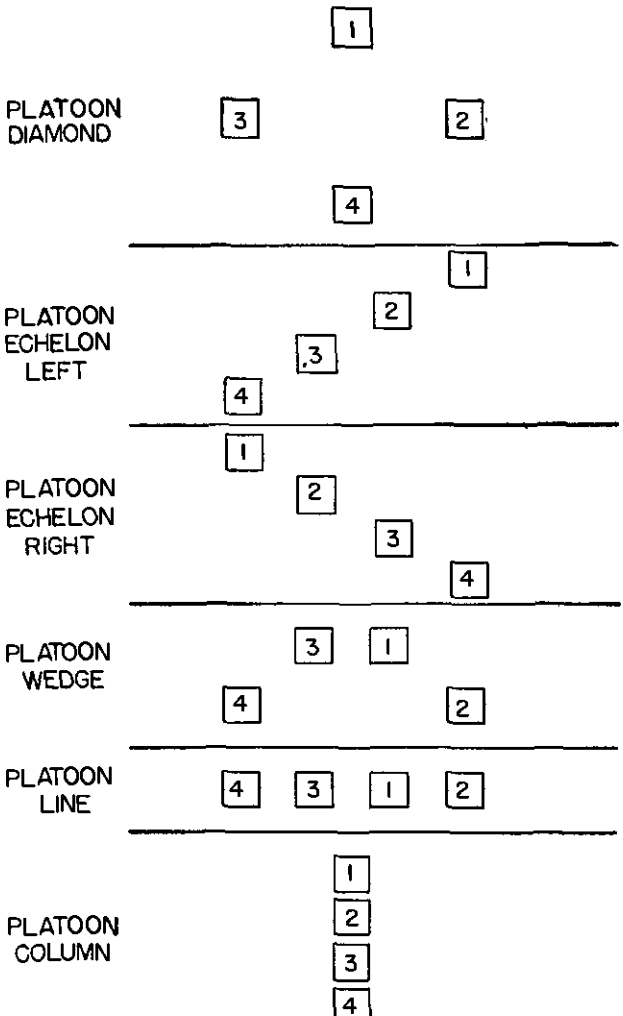


Figure 89. Armored infantry rifle platoon in basic formations.

vehicles move to the left of the first (or base) vehicle. These vehicles move at increased speed until in their new position. *Diamond* formation is gained in the same manner except that the fourth vehicle takes position behind the base (fig. 89). When a formation is to be formed in any other direction than the direction of march, the head of the column should be turned in the new direction before the deployment is ordered.

b. Column formation is formed from any other formation by movement of the vehicles to their proper positions in rear of the base, each vehicle moving by the most direct route.

c. Echelon, right (left) is gained from any column formation by the vehicles behind the base placing themselves progressively to the right (left) rear of the base. From other formations echelon is gained as above, with the vehicles moving to their respective positions by the most direct route.

8. LIGHT MACHINE-GUN SQUAD

The light machine-gun squad may occasionally be given a different numerical designation for drill purposes. Such variety in training accustoms this squad to frequent changes of position in the various platoon formations that are normal in combat.

9. COMPANY DRILL

a. The platoon is the basic unit for drill in combat formations. When terrain permits, company drill is effective in perfecting coordination among the

platoons. Company formations may include any of the following:

(1) *Column of platoons.* Each platoon in line and placed one behind another.

(2) *Line of platoons.* All platoons in column and abreast.

(3) *Line of platoons in wedge or diamond.* All platoons in wedge, or diamond formation, and abreast.

(4) *Column of platoons in wedge or diamond.* All platoons in wedge or diamond formation, and placed one behind another.

b. The company may also adopt company wedge, diamond, or echelon formations, employing the three rifle platoons and the mortar platoon in the same manner that the rifle platoon drills with three rifle squads and a light machine-gun squad.

c. When present at mounted drill, vehicles in company headquarters take positions as prescribed by the company commander or are attached to platoons of the company for drill.

10. MORTAR PLATOON

The mortar platoon of the armored infantry rifle company may take part in mounted drill using the same formations employed by the rifle platoon. When this platoon conducts mounted drill, the ¼-ton truck of the platoon headquarters is considered No. 1, and the three squads as No's. 2, 3, and 4 vehicles.

11. SPECIAL MOVEMENTS AND COMMANDS

a. To assemble.

(1) Being in disorder or dispersed, the leader commands or signals ASSEMBLE, and halts or moves slowly forward.

(2) In the platoon all vehicles assemble, in column, behind their leader in normal order.

(3) In the company, each platoon is assembled by its platoon leader in an orderly manner. It is then conducted in the most convenient manner toward the company commander, forming line of platoons, unless the signal ASSEMBLE is followed by the signal for some other formation. The company commander indicates the base platoon and causes it to follow him or designates its location; the platoons form in normal order, unless otherwise directed.

b. Movement to flank or rear.

(1) Simultaneous changes in direction of vehicles to either flank or to the rear are executed on the command or signal: BY THE RIGHT (LEFT) FLANK, MARCH, or TO THE REAR, MARCH. Vehicles execute TO THE REAR by turning to the left about. Platoon and higher commanders proceed as rapidly as possible to their positions at the head of their units. Vehicles within the platoon resume their normal positions upon the next change in formation.

(2) If it is desired to change the direction of larger elements simultaneously, the signals are those for changing direction preceded by the signal for the element. For example, to have all platoons in a company move to the right flank, the signal is: PLATOONS, CHANGE DIRECTION TO THE RIGHT, MARCH.

c. Right (left) front into line. Line may be formed from column on either side of leader by the command: RIGHT (LEFT) FRONT INTO LINE, MARCH, or the signal for LINE followed by pointing to the right (left) front. At this command all leaders and elements move out successively to the right (left) front from column in time to come up abreast on the line formed by the leader when he halts. The interval between vehicles is 5 yards unless otherwise prescribed.

d. To disperse.

(1) At the command or signal DISPERSE, vehicles in a platoon acting alone disperse irregularly so that they are not less than 50 yards from any other vehicle and halt. If the platoon is part of a company formation, platoons are led by the platoon leaders rapidly in different directions and vehicles disperse as in the platoon acting alone. The distance between platoons is not less than 50 yards.

(2) This movement is for use in any emergency when troops are in a close order or march formation and it is desired to spread out the vehicles rapidly to minimize the effect of a

surprise attack by air or artillery fire. Vehicles are halted under cover and placed in positions of readiness to meet any such attack.

e. To follow leader.

(1) To change formation quickly or to bring order out of confusion, the leader moves off in the desired direction and commands or signals: FORMATION, FOLLOW ME.

(2) In the platoon, all vehicles move rapidly and take up the designated formation.

(3) In the company, each platoon leader, if the platoon is not in the desired formation, commands or signals: FORMATION, FOLLOW ME, and then conducts it toward the company commander. The platoon first arriving near the company commander becomes the base of the new formation.

f. To rally.

(1) Being in disorder or dispersed, the leader commands or signals RALLY, and moves slowly forward or halts.

(2) In the platoon, all vehicles move rapidly and form wedges behind their leader in any order. Vehicles within the platoon resume their normal positions on the next change in formation or on the command ASSEMBLE.

(3) In the company, each platoon is rallied by its platoon leader while moving and is conducted rapidly toward the company commander, forming line of platoons in wedges. The first platoon to reach the company com-

mander forms behind him and other platoons form on the nearest flank.

(4) Rally is used when a rapid reforming is required to renew the attack or to meet an immediate hostile threat.

Section II. COMBAT FORMATIONS—DISMOUNTED

12. PURPOSE AND SCOPE

This section is a guide for the armored infantry rifle company commander, platoon leaders, and squad leaders in the training of the squad and the platoon in combat formations. It covers the various types of squad and platoon formations and prescribes a uniform method of conducting drill in these formations over open ground and varied terrain. The formations are designed specifically for the armored infantry rifle squad platoon.

13. TRAINING

Initial training in squad and platoon combat formations is conducted on open terrain, like a parade ground. As soon as individuals and units have become proficient in assuming the formations, the drill is conducted on varied terrain to obtain practical training in the application of the formations to the terrain. On completing the training period, units progress to tactical exercises involving an imaginary or simulated enemy.

14. ARMORED INFANTRY RIFLE SQUAD

a. Organization. The rifle squad is composed of ten men, numbered for drill purposes as follows:

1. Squad leader.
2. Rifleman.
3. Rifleman.
4. Rifleman.
5. Rifleman.
6. Rifleman.
7. Automatic rifleman.
8. Ammunition bearer.
9. Assistant squad leader.
10. Driver.

The driver of the squad vehicle remains with his vehicle and does not take part in dismounted drill. For organization of the light machine-gun squad refer to paragraph 8, this appendix. No. 7 and No. 8, the automatic rifleman and ammunition bearer, are referred to herein as the AR team.

b. Conduct of drill.

(1) Combat drill training is conducted at ease. It stresses precision and discipline.

(2) Initial training is conducted at a walk. As soon as individuals understand the formations, the training tempo is progressively increased until the movements are executed at a run.

(3) For drill purposes, the normal interval between men is approximately 5 paces; however, this distance may be varied.

(4) In the initial stages of instruction, the squad leader gives oral commands accompanied by the appropriate arm-and-hand signals.

(5) Duties within the squad should be rotated often to promote interest and to teach each individual the entire drill.

(6) When executing movements, the rifle and automatic rifle are carried at port arms. When the squad is halted, rifles are brought to order arms, the automatic rifle to sling arms, and all men remain at ease.

(7) The squad leader may leave his normal position in the formation and place himself where he can best control his unit.

(8) Members of the squad base their positions and movements on the number 2 man unless they are directed otherwise by the squad leader.

c. Observation and control.

(1) At all times the squad provides observation to the front, flanks, and rear. When halted, men face and observe in the directions indicated in figures 91 and 92. While moving, men observe in the same direction.

(2) The squad leader exercises control over his squad by the use of oral commands or arm-and-hand signals. When halted or moving, individuals of the squad frequently look toward the squad leader for instructions.

d. March column. To form march column, the squad leader commands and signals: MARCH COLUMN, MOVE. At the command MOVE, the squad forms as shown in figure 90.

e. Squad column. To form squad column, the squad leader commands and signals: SQUAD COLUMN, MOVE. At the command MOVE, No. 2 moves forward 30 paces and other men take positions as shown in figure 91. In both squad column

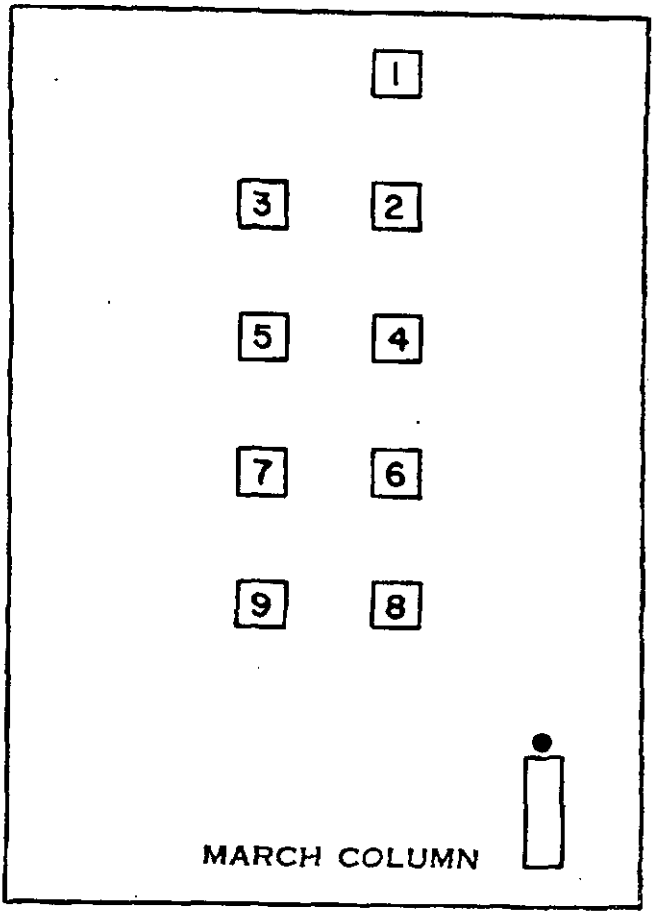


Figure 90. Squad in march column.

and squad diamond formations, the even numbered men move to the right and the odd numbered men move to the left of the squad leader.

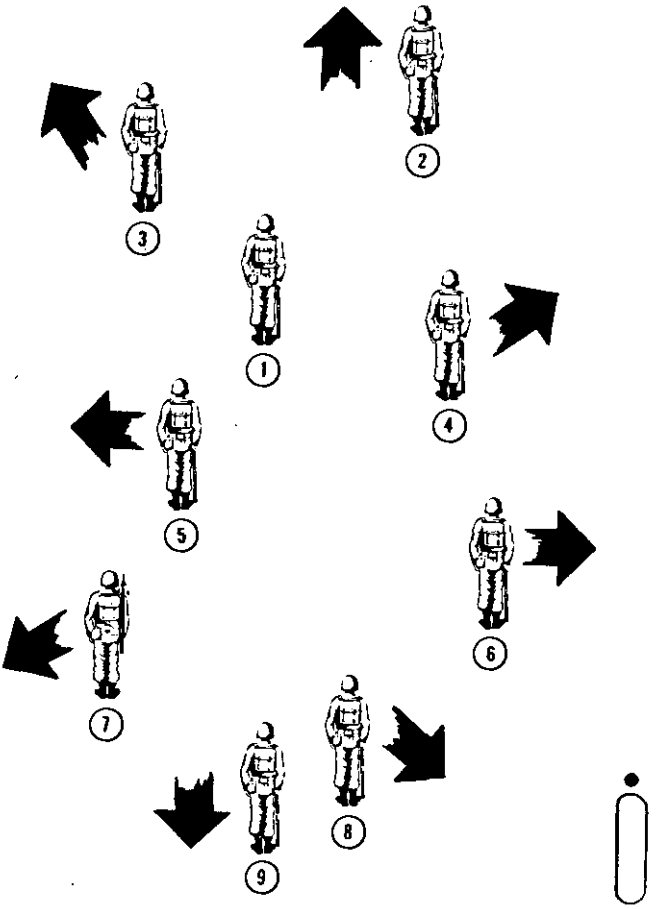


Figure 91. Squad column.

f. Squad diamond. To form squad diamond, the squad leader commands and signals: SQUAD DIAMOND, MOVE. At the command MOVE, No. 2

moves forward 15 paces and the other members take positions as shown in figure 92.

g. As skirmishers. To form skirmishers, the squad leader commands and signals: AS SKIRMISHERS, MOVE. At the command MOVE, the men assume the positions shown in figure 93.

h. As skirmishers, AR team right (left). To form as skirmishers, AR team right, the squad

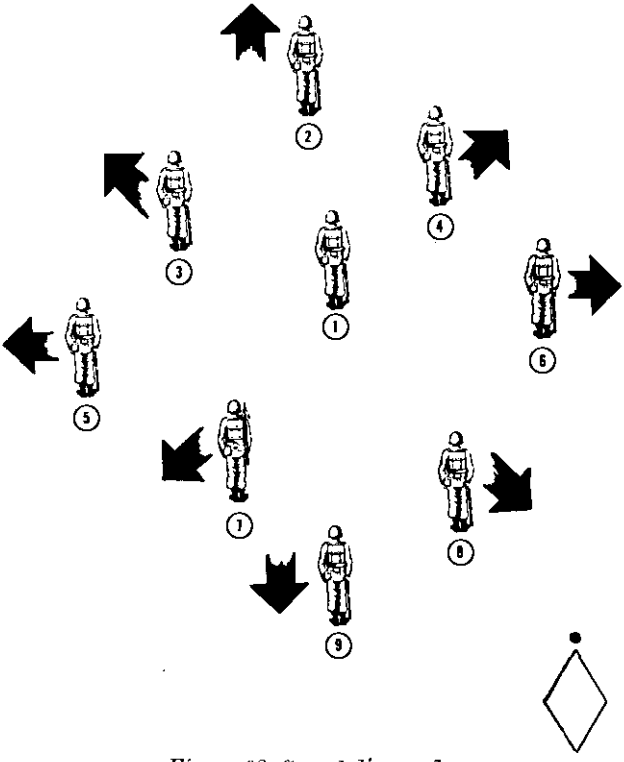


Figure 92. Squad diamond.

leader commands and signals: AS SKIRMISHERS, AR TEAM RIGHT, MOVE. At the command MOVE, men assume the positions shown in figure 94. To form as skirmishers with the AR team on the left, the commands are: AS SKIRMISHERS, AR TEAM LEFT, MOVE. At the command MOVE, men assume the positions shown in figure 94.

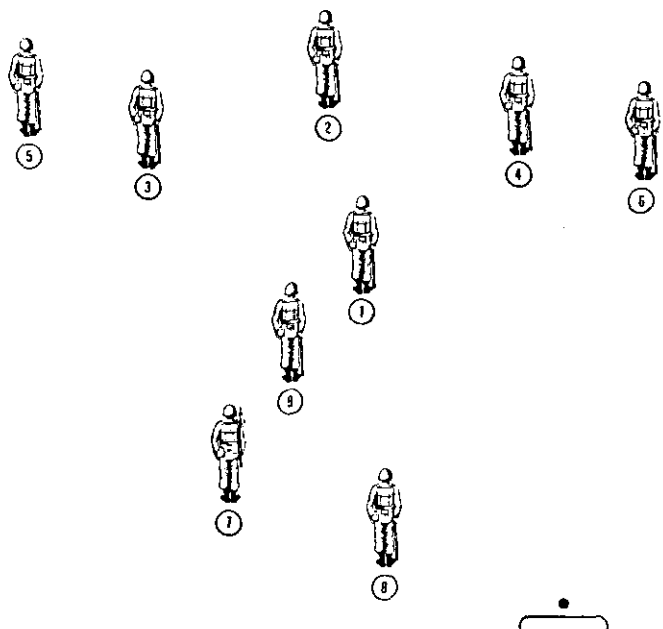


Figure 93. Squad as skirmishers.

i. Movement. After the squad has been trained to assume formations promptly, training in movement is begun. The squad is trained to move in any direction and, while moving, to change from one

formation to another upon command and signal of the squad leader. Training progresses until a dispersed and disorganized squad is able to assume a combat formation promptly upon a command or signal indicating the direction it is to face and the

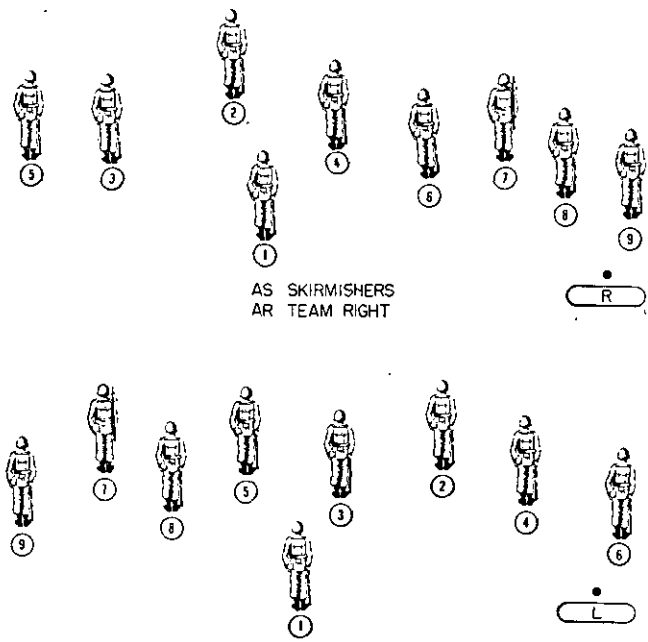


Figure 94. Squad as skirmishers—AR team right and left.

desired formation. The squad may move as a unit, by groups, or by individuals. Movement may be made by rushes, by walking, or by crawling.

(1) Being in any formation at a halt, to move the squad forward, the squad leader com-

mands and signals FORWARD. When the command has been given the squad moves forward, basing its rate and direction of movement upon that of the squad leader or a previously designated individual.

(2) To halt the squad, the squad leader commands and signals HALT. At the command HALT, the squad stops in place.

(3) To assemble the deployed squad, the squad leader commands and signals ASSEMBLE. Men move at a run and assemble in tactical column formation facing the squad leader.

15. ARMORED INFANTRY LIGHT MACHINE-GUN SQUAD

a. The light machine-gun squad consists of twelve men, listed and numbered for drill purposes below:

1. Squad leader
2. Rifleman
3. Rifleman
4. Rifleman
5. Machine gunner
6. Assistant gunner
7. Ammunition handler
8. Machine gunner
9. Assistant gunner
10. Ammunition handler
11. Assistant squad leader
12. Driver

The driver remains with his vehicle and normally does not take part in dismounted drill.

b. When the platoon moves dismounted the light machine-gun squad normally moves in march column (fig. 95). Other combat formations are not applicable to this squad, but members of the squad are trained in their use as a general familiarization measure.

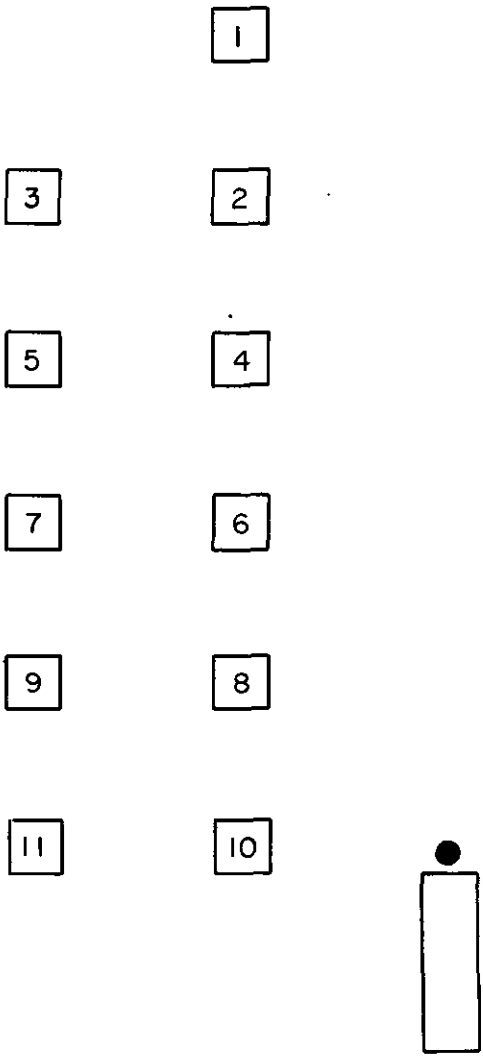


Figure 95. Light machine-gun squad in march column.

16. RIFLE PLATOON

a. Organization.

(1) The rifle platoon is composed of a platoon headquarters, three rifle squads, and an LMG squad. Squads within the rifle platoon are designated as the first squad, second squad, third squad, and LMG squad.

(2) Symbols for the platoon leader and the platoon sergeant are shown in figure 96.

PLATOON LEADER

PLATOON SERGEANT

Figure 96. Symbols representing platoon leader and platoon sergeant.

b. Conduct of drill.

(1) Training in combat formations for the rifle platoon is designed to teach the relative positions of the squads in the platoon formations. Platoon drill is conducted in the same general manner as for the squad (par. 14, this app.). The platoon deploys with sufficient distance between squads to permit movement. The arm-and-hand signal PLATOON need not precede arm-and-hand signals for the platoon. It is assumed that signals given by the platoon leader are intended for the entire platoon unless they are preceded by the arm-and-hand signal

SQUAD. Oral commands and arm-and-hand signals are used for this phase of instruction as in squad drill. For drill purposes, the distances between squads are fixed for each formation, although they may be altered to conform to the size of the drill field. The drill is conducted AT EASE. The squads move at a run when changing formation.

(2) When three squads are abreast, the center rifle squad is the base squad. In all other formations, the leading or right leading rifle squad is the base squad.

(3) The squad formations within the platoon formation may vary; however, the LMG squad ordinarily uses the march column formation.

c. Observation and control.

(1) In platoon drill, each squad within the platoon observes to its front, flanks, and rear as in squad drill.

(2) Squad leaders observe and control their squads and maintain visual contact with the platoon leader.

(3) The platoon leader places himself in a position from which he can best control the platoon.

(4) The platoon sergeant and assistant platoon sergeant assist the platoon leader in the control of the platoon. Their positions are not fixed.

d. March column. To form a march column, the platoon leader commands and signals MARCH COL-

UMN, MOVE. At the command MOVE, the platoon forms as shown in figure 97.

e. Platoon column. To form platoon column, the platoon leader commands and signals PLATOON COLUMN, MOVE. At the command MOVE, the platoon forms as shown in figure 97.

f. Platoon line. To form platoon line, the platoon leader commands and signals PLATOON LINE, MOVE. At the command MOVE, the platoon forms as shown in figure 97.

g. Platoon vee. To form platoon vee, the platoon leader commands and signals PLATOON VEE, MOVE. At the command MOVE, the platoon forms as shown in figure 98.

h. Platoon wedge. To form platoon wedge, the platoon leader commands and signals PLATOON WEDGE, MOVE. At the command MOVE, the platoon forms as shown in figure 99.

i. Platoon echelon right (left). To form platoon echelon right (left), the platoon leader commands and signals PLATOON ECHELON RIGHT (LEFT), MOVE. At the command MOVE, the platoon forms as shown in figure 99.

j. Movement.

(1) After the platoon has been trained to assume the basic formations promptly on command, it is trained to move, and while moving, to change from one formation to another. The rules for moving and halting are, in general, the same as for the squad. In changing from one formation to another, the base squad sometimes changes to conform to the rules as explained in paragraph

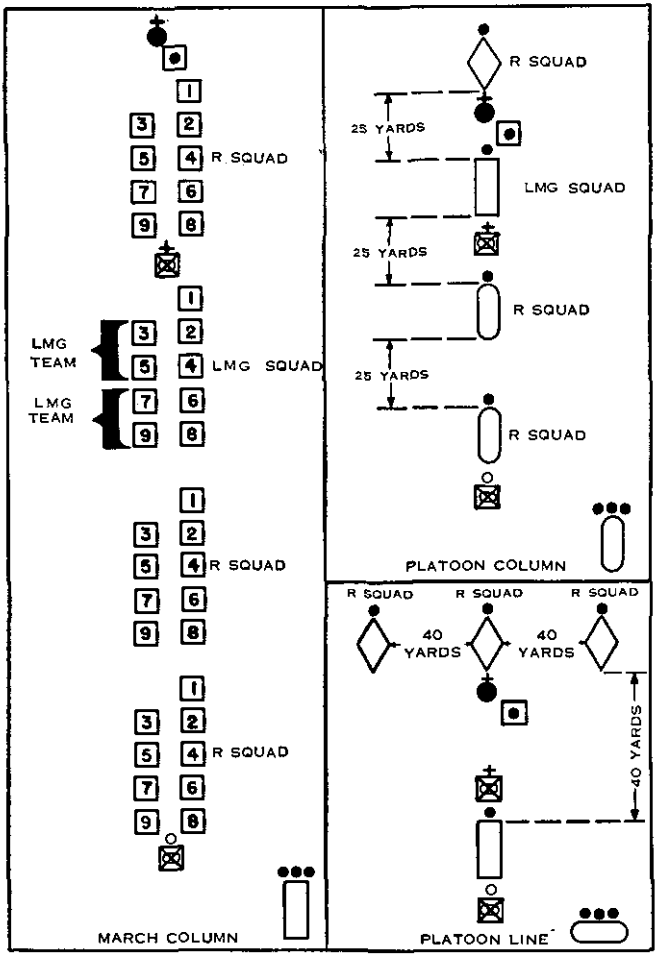


Figure 97. Platoon formations—march column, platoon column, and platoon line.

2, this appendix. For instance, in changing from platoon vee to platoon line, the right leading rifle squad remains the base squad until the line formation is completed; then the center rifle squad becomes the base squad. The base squad is redesignated when the movement is completed.

(2) A suggested sequence for drill in changing formations is indicated in figures 100–104. The sequence takes the platoon successively from platoon column through platoon echelon, wedge, vee, line, and back to column.

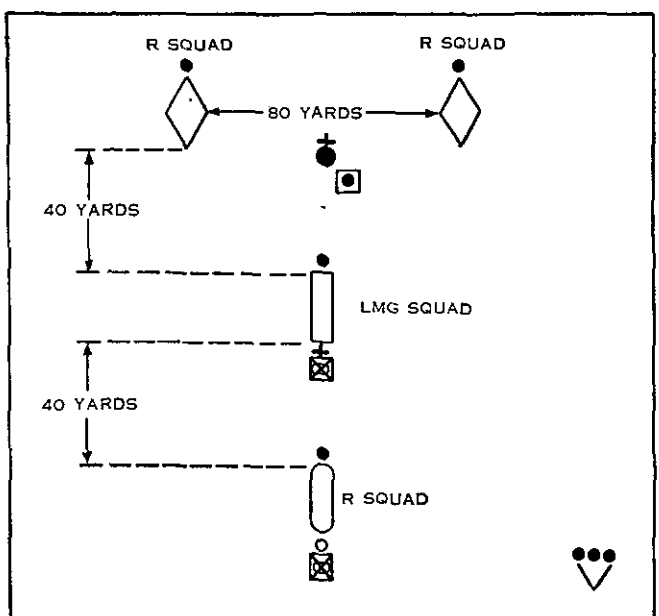


Figure 98. Platoon formations—platoon vee.

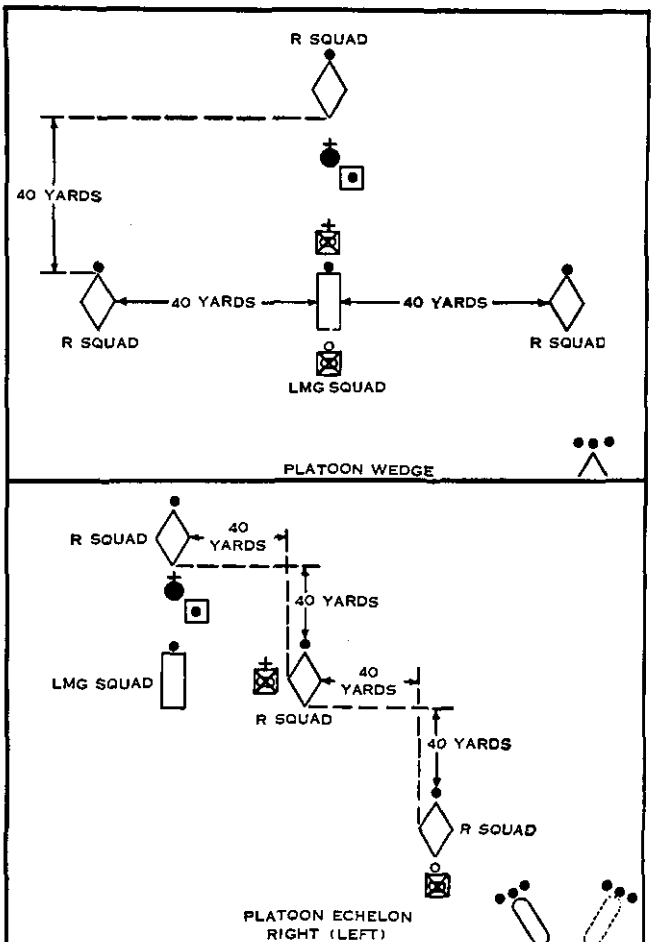


Figure 99. Platoon formations—platoon wedge and platoon echelon right (left).

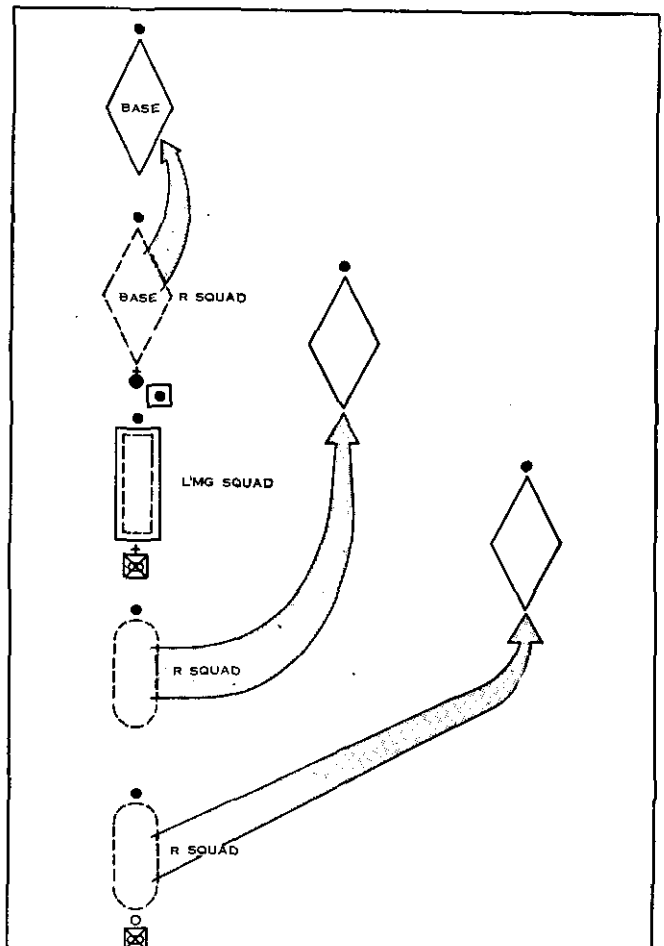


Figure 100. Platoon movements—platoon column to platoon echelon right.

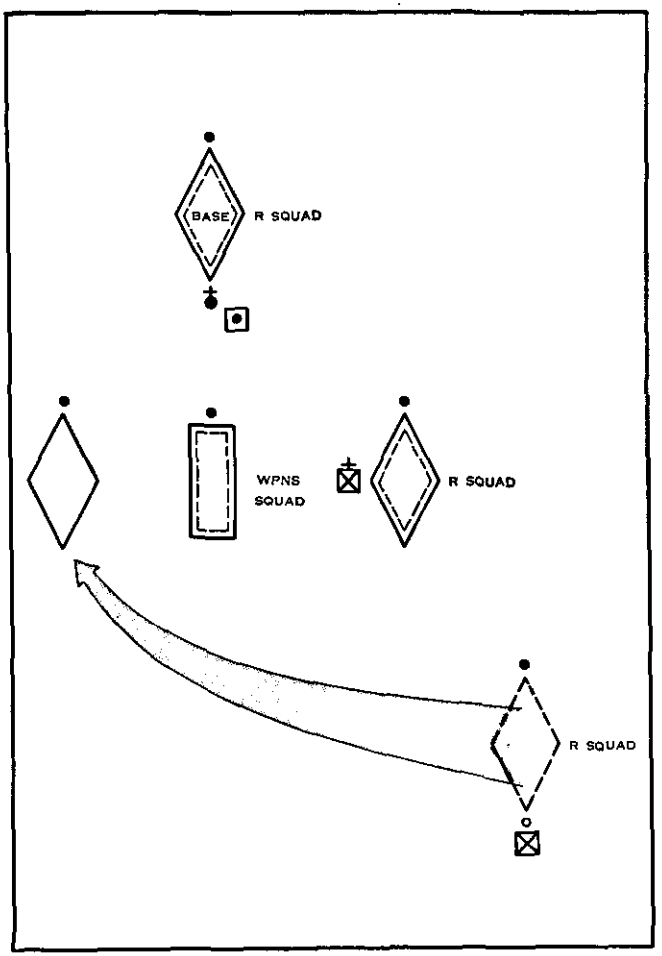


Figure 101. Platoon movements—platoon echelon to platoon wedge.

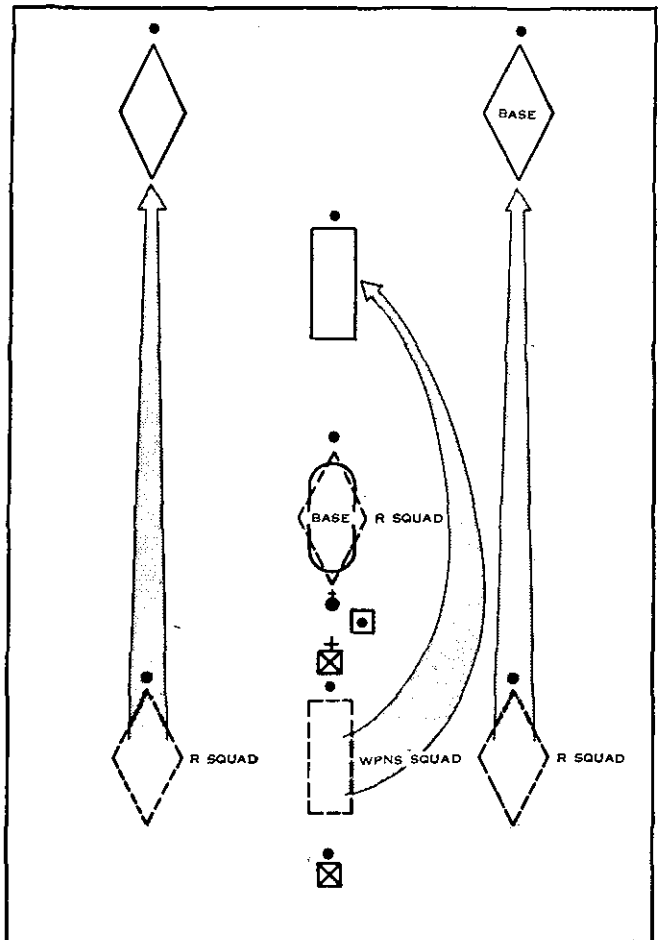


Figure 102. Platoon movements—platoon wedge to platoon vee.

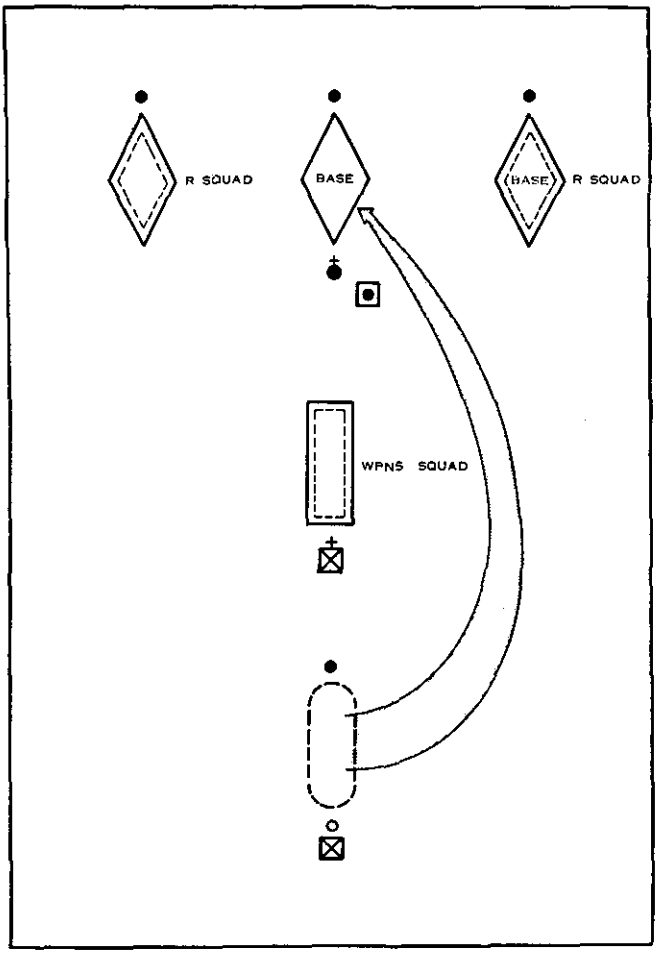


Figure 103. Platoon movements—platoon vee to platoon line.

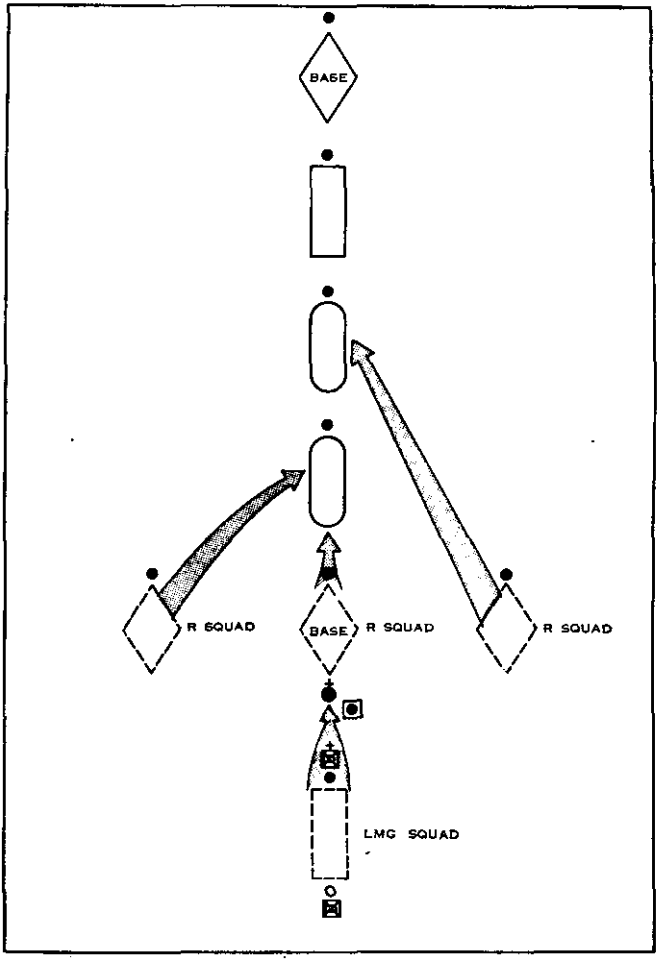


Figure 104. Platoon movements—platoon line to platoon column.

APPENDIX IV

UNIT JOURNAL [1]

Organization———————————
From: (Date and hour)
To: (Date and hour)[2]
Place: Location of unit CP

Time [3]		Serial no.[4]	Time dated [5]	Incidents, messages, orders, etc.[6]	Action taken [7]
In	Out				
1700		1	1600	*CCA 1st Armd Div*—Co A 1st Armd Engr Bn reverts CCA control vic Gettysburg 350750 040600.	STF
	1730	2	1720	*Co A 1st Armd Engr Bn*—CO report of CP 1st Armd Inf Bn at 031900 Sep. Alert unit for movement at 032230.	TSF
	2200	3	2200	*1st Armd Inf Bn*—Bn CO. departed for CP CCA.	S

1. Normally one journal is kept for the staff by the S–1 section. The S–2 and S–3 sections may keep an operational journal in addition.

2. Period covered is usually 24 hours.

3. Time of receipt of an incoming message or the time of dispatch of an outgoing message.

4. Consecutively numbered.

5. Time information originated. Thus the entry shows the time elapsed prior to receipt.

6. The first item entered is the unit to whom the message is sent, or from whom the message came. This entry is followed by a synopsis of the message or document. The journal is supplemented by a journal file, which contains copies of all messages and documents arranged in the sequence of entry in the journal.

7. The following symbols may be used: M—put on the situation map; S—staff circulation in CP; T—information sent to interested troops; F—copy filed in journal file.

APPENDIX V

UNIT REPORT

CLASSIFICATION

Issuing headquarters
Place of issue
Date and time

Unit Report No. ———
Period covered: (date and time to date and time).
Charts or maps:

(Omit subparagraphs not applicable.)

1. ENEMY.—(Indicate on map or overlay where possible.)

a. Units in contact.

b. Enemy reserves that can affect our situation.

c. Brief description of enemy activity during period covered by report.

d. Brief estimate of enemy strength, material means, morale, and his probable knowledge of our situation.

e. Conclusions covering courses of action open to the enemy that can affect our mission (including the effect of time, space, terrain, present known dispositions, and other factors on each such course of action) and the earliest estimated time at which the enemy can put each into effect.

2. OWN SITUATION.

a. Our front line or most advanced elements.

b. Location of troops, command posts, boundaries.

c. Location of adjacent units and supporting troops.

d. Brief description of our operations during period covered by report so that higher headquarters may grasp and understand the picture presented.

e. Concisely worded estimate of the combat efficiency of our command.

f. Results of operations during the period covered by the report.

3. ADMINISTRATION.—(Indicate on map or overlay where possible.)

a. Personnel.

(1) Strengths, records, and reports.
(2) Replacements.
(3) Discipline, law, and order.
(4) Prisoners of war.
(5) Burials and graves registration.
(6) Morale and personnel services.
(7) Civil affairs—military government.
(8) Procedures.
(9) Interior management.
(10) Civilian employees.
(11) Miscellaneous.

b. Logistics.

(1) Supply.
(2) Evacuation and hospitalization.
(3) Transportation.
(4) Service.
(5) Miscellaneous.

4. GENERAL.—Pertinent comments not covered elsewhere.

Commander

Annexes
Distribution
Authentication

Note 1. Paragraph 1 is prepared by the S–2.

Note 2. Paragraph 2 is prepared by the S–3.

Note 3. Paragraph 3a is prepared by the S–1.

Note 4. Paragraph 3b is prepared by the S–4.

Note 5. Paragraph 4 is for general comments of the staff and the commander.

Note 6. The Unit Report is consolidated by one of the staff members under the supervision of the executive officer.

Note 7. The Unit Report is submitted in form and detail and at intervals prescribed by the headquarters requiring the report.

CLASSIFICATION

APPENDIX VI

ORDERS

Section I. MARCH ORDER—ARMORED INFANTRY BATTALION (CHECK LIST)

Note. Usually a battalion does not issue a complete operation order for a movement. A battalion usually disseminates information to its units by means of oral orders, route overlays, march tables, or a combination of all three methods. When it is necessary for a battalion to issue a complete march order, the check list below can be used as a guide.

1. *a.* Information of the enemy.
   b. Information of friendly forces.
2. Method of movement.
   Formation.
   March objective or destination.
   Time of starting.
   Routes.
   Rate of march.
   Reference to march table if issued (Annex 1, March Table) (fig. 105).
3. Advance guard.
   Flank guard.
   Rear guard.
   Reconnaissance party.
   Billeting party.
   Any other details not covered in the standing operating procedure.
4. Plans for refueling during the march.
   Disposition and composition of trains.
   Feeding arrangements.

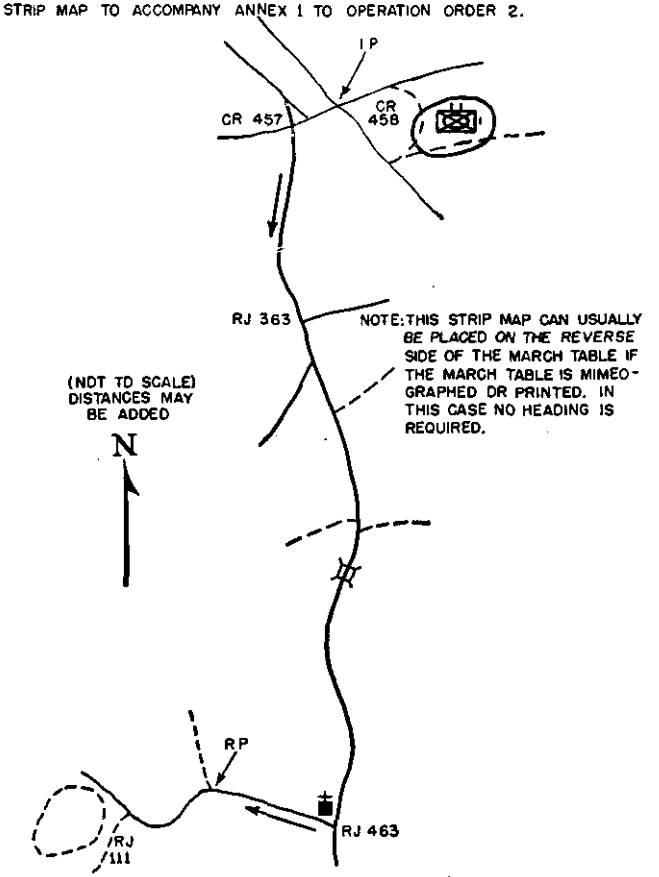


Figure 105. Strip map to accompany march table.

5. Plan of signal communication.
   Radio silence or restrictions on use of radio.
   Messengers.
   Location of CP before, during, and after the march.

MARCH TABLE—ARMORED INFANTRY BATTALION

EXAMPLE

CLASSIFICATION

1st Armed Inf Bn
FORT WINGATE, NEW MEXICO
161100 Apr 19——

Annex 1 (March Table) to Opn 0 2
Map: Strip Map Attached

1	2	3	4	5	6	7	8	9	10	11	12
					March			Contl of Mvmt			
March Unit No.	Orgn and Comdr	Present Loc	Route	Loc By 180400 Apr	Rate (MPH)	Type	Time Length (min)	Loc of Critical Pts	Earliest Arrival Time	Latest Clearance Time	Remarks
1	Co A Capt Roe	838062	Red	828373	17	Close Column	14	IP-CR 45B	180800	0814	1. Recon Plat marks route
2	Hq. Hq. Co Lt Col Doe.	832055	Red	846361	17	Close Column	16	RJ 363	0824	0840	
3	Co B Lt Noe	836071	Red	852113	17	Close Column	14	CR 457	1009	1025	

4	Co C Capt Hoe.	856443	Red.....	862367	17	Close Column.	14	RJ 463.....	1624	1638	2. 50 yard
5	Co D Capt Low.	861063	Red.....	865345	17	Close Column.	14	RP-RJ 111....	1800	1836	interval between
	Bn Trains Maj Poe.	866184	Red.....	874545	17	Close Column	28	RJ, 534W.....	1840	1908	vehicles

DISTR: A

CLASSIFICATION

OFFICIAL
/s/ BLACK
S-3

DOE
Lt Col

CLASSIFICATION

BATTALION ATTACK ORDER (CHECK LIST)

MAPS: Identify maps referred to.

TASK ORGANIZATION: List reinforced tank and armored infantry rifle companies and units therein, units to be kept under battalion control, and composition of battalion combat and field trains.

1. GENERAL SITUATION.

a. Enemy forces.

b. Friendly forces.

(1) Situation and mission of combat command and adjacent units.

(2) Supporting units: artillery, armored engineers, and other units.

(3) Covering forces and other security elements in the vicinity.

2. MISSION.

a. A statement of the task to be accomplished by the reinforced battalion. Include, so far as appropriate, who, what, where, when, how, and why.

b. Coordinating details applicable to the battalion as a whole like objectives, time of attack, formation, line of departure, direction of attack, time of attack, bomb line, etc.

3. TASKS FOR SUBORDINATE UNITS.

a. Use a subparagraph for instructions to each assaulting company or reinforced company.

(1) Objectives.

(2) Zone of action.
(3) Security or other special missions.

b. Use a subparagraph for instructions to the 81-mm mortars, tanks in the supporting force, and vehicular machine guns.

(1) Plan of supporting fires.
(2) Position areas.
(3) Targets or sectors of fire.
(4) Conditions for opening fire.
(5) Displacement (particularly 81-mm mortars).

c. Use a subparagraph for instructions to each other organic or attached unit.

d. Use the last subparagraph before *x* for instructions to the reserve.

(1) Location.
(2) Contemplated employment.
(3) Security or other special missions.

x. In subparagraph *x* give tactical instruction (other than signal) applicable to two or more units. These include:

(1) Alterations to standing operating procedure.
(2) General security measures.
(3) Provisions for secrecy.
(4) Essential elements of information.

4. ADMINISTRATIVE AND LOGISTICAL MATTERS. Instructions concerning the aid station, feeding and resupply, including the location of the combat trains, the route of advance, and alterations or additions to standing operating procedure.

5. COMMAND AND SIGNAL MATTERS.

a. Use of communication.

(1) Index to signal operation instructions in effect.

(2) Restrictions, if any, on use of radio.

(3) Pyrotechnic signals.

(4) Any special instructions concerning communication.

b. Command posts.

(1) Locations.

(2) Tentative subsequent locations.

(3) Location of battalion commander.

CLASSIFICATION

Section III. BATTALION DEFENSE ORDER (CHECK LIST)

CLASSIFICATION

BATTALION DEFENSE ORDER (CHECK LIST)

MAPS: Identify maps referred to.

TASK ORGANIZATION: List reinforced tank and armored infantry companies and units therein, units to be kept under battalion control, and composition of battalion combat and field trains.

1. GENERAL SITUATION.

a. Enemy forces.

b. Friendly forces.

(1) Situation and missions of the combat command and adjacent units.

(2) Supporting units: tanks, aviation, artillery, engineers, and others.

(3) Covering forces and other security elements in the vicinity.

2. MISSION.

a. A statement of the task to be accomplished by the reinforced battalion; include who, what, where, when, how, and why.

b. Details of coordination applicable to the battalion as a whole.

(1) Formation.
(2) Boundaries.
(3) General trace of the MLR (or area to be outposted in mobile defense).
(4) Limiting points.

3. TASKS FOR SUBORDINATE UNITS.

a. In a separate subparagraph assign specific tasks to each tactical element of the command (including the combat outpost and any attached units). These instructions may include:

(1) Missions for each unit.
(2) Boundaries and limiting points.
(3) Conditions and restrictions on opening fire.
(4) Positions to be occupied.
(5) Location and missions for crew-served weapons.

b. Use the last subparagraph before *x* for instructions to the reserve. This includes:

(1) Composition.
(2) Missions (including combat outposts, if applicable).
(3) Location.
(4) Priority for planning counterattacks (reinforcement of outposts in mobile defense).

x. Instructions common to two or more units, including:

(1) Alterations to standing operating procedure.

(2) Organization of the ground, to include priorities.

(3) Location of mine fields and obstacles.

(4) Essential elements of information.

4. ADMINISTRATIVE AND LOGISTICAL MATTERS.

Instructions relative to any alterations of standing operating procedure, location of the battalion aid station, feeding, gasoline and oil, and ammunition. Ammunition information includes the location of combat trains, arrangements for distribution, and the amount of ammunition to be placed on position.

5. COMMAND AND SIGNAL MATTERS.

a. Orders for the use of signal communication.

(1) Index to signal operation instructions.

(2) Restriction, if any, on the use of radio.

(3) Special pyrotechnic signals.

b. Command posts.

(1) Locations and time of opening.

(2) Alternate locations.

Section IV. BATTALION RETROGRADE ORDER (CHECK LIST)

CLASSIFICATION

BATTALION RETROGRADE ORDER (CHECK LIST).

MAPS: Identify maps referred to.

TASK ORGANIZATION: List reinforced tank and armored infantry companies and units therein, units to be kept under battalion control, and composition of battalion combat and field trains.

1. GENERAL SITUATION.
   a. Enemy forces.
   b. Friendly forces.

2. MISSION.

a. A statement of the task to be accomplished by the reinforced battalion; include who, what, where, when, how, and why.

b. Details of coordination applicable to the battalion as a whole, including:
   (1) Routes or zones of withdrawal.
   (2) Phase lines.
   (3) Formation.
   (4) Location of battalion assembly area or initial point.

3. TASKS FOR SUBORDINATE UNITS.
   a. Covering force.
      (1) Composition.
      (2) Commander and time he assumes command. This is usually just before the time the front-line companies begin their withdrawal.
      (3) Route and time of withdrawal of covering force.

b. In separate lettered subparagraphs assign specific tasks to each unit of the command, giving:
   (1) Any attachments.
   (2) Assembly area of each company.
   (3) Routes of withdrawals.
   (4) Times of withdrawals.

x. Instructions common to two or more units.
(1) Alterations to standing operating procedures.
(2) Essential elements of information.

4. ADMINISTRATIVE AND LOGISTICAL MATTERS

Instructions pertaining to evacuation of casualties and supplies for the covering force and the withdrawing force. Alterations to standing operating procedure.

5. COMMAND AND SIGNAL MATTERS.

a. Orders for use of signal communication.
(1) Index to signal operation instructions.
(2) Restrictions, if any, on radio.
(3) Special pyrotechnic signals.

b. Command posts.
(1) Present or future locations and times of opening.
(2) Location of commander.

CLASSIFICATION

Section V. BATTALION NIGHT ATTACK ORDER (CHECK LIST)

CLASSIFICATION

BATTALION NIGHT ATTACK ORDER (CHECK LIST).

MAPS: Identify maps referred to.

TASK ORGANIZATION: List reinforced tank and armored infantry companies and units therein, units to be kept under battalion control, and composition of battalion combat and field trains.

1. GENERAL SITUATION.

a. Enemy forces.

b. Friendly forces.

(1) Situation and mission of combat command and adjacent units.

(2) Supporting units: tanks, artillery, elements of other infantry units firing in support, and engineers.

(3) Security elements in the vicinity.

2. MISSION.

a. A statement of the task to be accomplished by the battalion (reinforced) as a whole; include who, what, where, when, how, and why.

b. Details of coordination applicable to the battalion as a whole.

(1) Objective.

(2) Formation.

(3) Direction of attack.

(4) Battalion boundaries and, when applicable, company boundaries.

(5) Attack position.

(6) Line of departure.

(7) Time of attack.

(8) Company release point.

(9) Probable line of deployment.

(10) Limit of advance.

3. TASKS FOR SUBORDINATE UNITS.

a. Use a subparagraph to give specific instructions to each assaulting company.

(1) Objective.

(2) Formation.

(3) Attack position.

(4) Route of advance.
(5) Mission on capture of objective.
(6) Organization of objective.
(7) Special security measures applicable to one company.
(8) Use of carriers.

b. Use a subparagraph for specific instructions to the supporting force.

(1) Plan of supporting fires during attack, as applicable:
Designation of elements.
Position areas.
Targets.
(2) Movement or displacement before capture of the objective.
Time of movement.
Formation.
Method of advance (use of carriers).
(3) Displacement or movement to objective after its capture.
Designation of elements.
Time.
Methods.
New position areas.
Targets or sectors of fire.
(4) For elements not displacing, targets or sectors of fire after the objective is captured.

c. Use additional subparagraphs for specific instructions to any other attachments.

d. Use the last subparagraph before *x* for instructions to the reserve. This includes:

(1) Initial location.

(2) Missions and movement prior to capture of the objective.

(3) Missions and movement after capture of the objective.

x. Instructions common to two or more units.

(1) Means of identification.

(2) Special measures to maintain secrecy, to include limitations on reconnaissance.

(3) Special measures for control and coordination, to include use of engineer tape, telephone wire, and illuminating devices.

(4) Action when hostile security measures are encountered.

(5) Specific orders for night patrolling before the attack and after the capture of the objective.

(6) Rallying points in case withdrawal is ordered.

(7) Reorganization on the objective and consolidation of the position.

4. ADMINISTRATIVE AND LOGISTICAL MATTERS.

a. Ammunition supply.

(1) Location of the battalion combat trains.

(2) Route of ammunition advance after daylight.

(3) Amount to be carried.

(4) Alterations to standing operating procedure for ammunition supply.

b. Arrangements for feeding.

c. Instructions concerning tools, wire, antitank mines, and other special equipment when the captured position is to be organized for defense.

5. COMMAND AND SIGNAL MATTERS.

a. Orders for the use of signal communication.

(1) Index to signal operations instructions.

(2) Restriction, if any, on use of radio.

(3) Special pyrotechnics signals.

(4) Any special instructions concerning signal communications.

b. Command post.

(1) Location before, during, and after capture of the objective.

(2) Location of the battalion commander.

CLASSIFICATION

APPENDIX VII

SUBJECT SCHEDULE

1. Armored infantry rifle platoon.

a. Rifle squad (44 hours).

P [1]	H [2]	Lessons	Text references [3]	Area	Training aids and equipment
1	4	Point of the advance guard; conference 1 hr.; field exercise 3 hrs.	Pars. 55*b*, 150*c*, 222, 345; FM 7–10, pars. 22–25, 31*b*.	Classroom (indoor or outdoor) and appropriate terrain.	*For instructor:* blackboard and charts. *For students:* notebook, pencil, individual combat equipment and vehicles.
2	2	Flank guard; conference ½ hr.; sand table 1½ hrs.	Pars. 55*c*, 150*c*, 222, 345; FM 7–10, pars. 26*b*, 28, 33.	-----do-----	*For instructor:* blackboard and charts. *For students:* notebook and pencils.

[1] P—period.
[2] H—hours.
[3] All references are to FM 7-17 unless otherwise indicated.

a. Rifle squad (hours)—Continued

P [1]	H [2]	Lessons	Text references [3]	Area	Training aids and equipment
3	18	Attack; conference 1 hr.; sand table 3 hrs.; field exercise 14 hrs.	Pars. 141–148, 150–151, 153–158.	Classroom (indoor or outdoor) and appropriate terrain.	Same as period 1.
4	2	Infiltration; conference ½ hr.; field exercise 1½ hrs.	FM 7–10, pars. 263–265.	do	Do.
5	6	Defilade for armored vehicles; firing positions; use of vehicular armament; conference 1 hr.; sand table 1 hr.; field exercise 4 hrs.	Pars. 33–34	do	Do.
6	8	Defense; conference 1 hr.; field exercise 7 hrs.	Pars. 163–169, 170–178; FM 7–10, pars. 278–280.	do	*For instructor:* blackboard and charts. *For students:* notebook, pencil, individual, combat equipment and vehicles.

7	4	Road block and outpost; conference ½ hr.; sand table ½ hr.; field exercise 3 hrs.	Pars. 171–177	do	Do.

b. Light machine gun squad (44 hours).

1	8	Reconnaissance, selection and occupation of positions, sectors of fire and target areas; conference 1 hr.; demonstration 1 hr.; field exercise 6 hrs.	Pars. 141, 143, 150, 152.	Classroom and appropriate terrain.	*For instructor:* blackboard and charts. *For students:* notebooks, pencils, individual combat equipment and vehicles.
2	12	Light machine gun squad in the attack including preparation, conduct and reorganization; conference 1 hr.; sand table 1 hr.; demonstration 1 hr.; field exercise 9 hrs.	Pars. 141, 143, 150, 152.	do	Do.

[1] P—period.
[2] H—hours.
[3] All references are to FM 7–17 unless otherwise indicated.

b. Light machine gun squad (44 hours)—Continued

P [1]	H [2]	Lessons	Text references [3]	Area	Training aids and equipment
3	8	Support of the rifle platoon in attack; conference 1 hr.; sand table 1 hr.; demonstration 1 hr.; field exercise 5 hrs.	Pars. 152–156	Classroom and appropriate terrain.	*For instructor:* blackboard and charts. *For students:* notebooks, pencils, individual combat equipment and vehicles.
4	8	Conduct of the defense; individual positions, antimechanized and antiaircraft defense; conference 1 hr.; sand table 1 hr.; field exercise 6 hrs.	Pars. 161–169	do	Do.
5	4	Support of the rifle platoon in the defense; conference 1 hr.; field exercise 3 hrs.	Pars. 161–169	do	Do.
6	4	Retrograde movements; conference 1 hr.; field exercise 3 hrs.	Pars. 428–448	do	Do.

c. Rifle platoon (120 hours).

P [1]	H [2]	Lessons	Text references [3]	Area	Training aids and equipment
1	20	Platoon in the attack, to include preparation, conduct and reorganization; conference 2 hrs.; sand table, tactical walk, demonstration 6 hrs.; field exercise 12 hrs.	Pars. 148–159	Classroom and appropriate terrain.	*For instructor:* blackboard, charts, and sand table. *For students:* notebook, pencil, individual equipment and vehicles.
2	8	Attacking through mine fields and against tanks and antitank weapons. Conference 1 hr. Sand table 1 hr. Demonstration 2 hrs. Field exercise 4 hrs.	Pars. 219–221	do	Do.
3	12	Attack from march column (exploitation). Conference 1 hr. Sand table 1 hr. Demonstration 2 hrs. Field exercises 8 hrs.	Pars. 148–159, 222.	do	Do.

[1] P—period. [2] H—hours. [3] All references are to FM 7-17 unless otherwise indicated.

c. *Rifle platoon (120 hours)*—Continu ed

P [1]	H [3]	Lessons	Text references [3]	Area	Training aids and eq uipmen
4	16	Platoon in a river crossing; conference 2 hrs.; sand table 1 hr.; demonstration of engineer equipment and field expedients 1 hr.; field exercise 12 hrs.	Pars. 472–487; FM 5–10, ch.7.	Classroom and appropriate terrain.	All above plus necessary engineer equipment.
5	8	Platoon in attack of a village; conference 1 hr.; sand table 1 hr.; field exercise 6 hrs.	Pars. 507–509; FM 31–50, pars. 84–89.	----do----	*For instructor:* blackboard, charts, and sand table. *For students:* notebook, pencil, individual equipment and vehicles.
6	8	Platoon in attack of woods; conference 1 hr.; demonstration 1 hr.; field exercise 6 hrs.	Pars. 464–471	----do----	Do.

7	4	Platoon in attack of a road block; conference 1 hr.; sand table and demonstration 1 hr.; field exercise 2 hrs.	Pars. 219–222	do	Do.
8	16	Platoon in night attack; conference 2 hrs.; field exercise 14 hrs.	Pars. 459–461, 463.	do	Do.
9	8	Platoon in sustained defense; conference 1 hr.; sand table 1 hr.; demonstration and tactical walk 2 hrs.; field exercise 4 hrs.	Pars. 160–169	do	Do.

[1] P—period.
[2] H—hours.
[3] All references are to FM 7–17 unless otherwise indicated.

c. Rifle platoon (120 hours)—Continued

P [1]	H [2]	Lessons	Text references [3]	Area	Training aids and equipment
10	8	Platoon in mobile defense; conference 1 hr.; sand table 1 hr.; field exercise 6 hrs.	Pars. 170–177.	Classroom and appropriate terrain.	*For instructor:* blackboard, charts, and sand table. *For students:* notebook, pencil, individual equipment and vehicles.
11	8	Defense at night; conference 1 hr.; field exercise 7 hrs.	Pars. 160–169, 249; FM 7–10, par. 288.	do	Do.
12	4	Retrograde movements; conference 1 hr.; field exercise 3 hrs.	Pars. 428–448	do	Do.

2. 60-MM mortar platoon (120 hours).

P [1]	H [2]	Lessons	Text references [3]	Area	Training aids and equipment
1	28	60-mm mortar platoon in the attack; conference 2 hrs.; sand table and tactical walk 2 hrs.; field exercise including firing at field targets 24 hours.	Pars. 179–193, 222.	Classroom and appropriate terrain.	*For instructor:* blackboard and charts. *For students:* notebook, pencil, individual equipment and vehicles.
2	12	Attack from march column (exploitation).	Pars. 222, 230–232.	With rifle platoon	Do.
3	16	Support of a rifle platoon in a river-crossing.	Pars. 179–193, 472–475, 478–480, 483.	do	Do.

[1] P—period.
[2] H—hours.
[3] All references are to FM 7–17 unless otherwise indicated.

2. 60-MM mortar platoon (120 hours)—Continued

P [1]	H [2]	Lessons	Text references [3]	Area	Training aids and equipment
4	8	Support of a rifle platoon in attack of a village.	Pars. 179–193, 507–509; FM 31–50, pars. 70*j*, 72, 82–85.	With rifle platoon.	*For instructor:* blackboard and charts. *For students:* notebook, pencil, individual equipment and vehicles.
5	8	Support of a rifle platoon in attack of a woods.	Pars. 179–193, 464–471.	——do——	Do.
6	4	Support of a rifle platoon in attack of a road block.	Pars. 190–192, 219–222, 230–232.	——do——	Do.
7	16	Support of a rifle platoon in a night attack.	Pars. 190–192, 459–461, 463.	——do——	Do.
8	4	60-mm mortar platoon in the defense; conference 1 hr.; sand table 1 hr.; demonstration and tactical walk 2 hrs.	Pars. 194–201	Classroom and appropriate terrain.	Do.

9	4	Support of a rifle platoon in the defense.	Pars. 194–201	With rifle platoon	Do.
10	8	Support of a rifle platoon in a mobile defense.	Pars. 160–177	do	Do.
11	8	Support of a rifle platoon in defense at night.	Pars. 160–169, 194–201, 249.	do	Do.
12	4	Support of rifle platoon in retrograde movements.	Pars. 428–448	do	Do.

[1] P—period.
[2] H—hours.
[3] All references are to FM 7–17 unless otherwise indicated.

3. Armored infantry rifle company (144 hours).

P [1]	H [2]	Lessons	Text references [3]	Area	Training aids and equipment
1	20	Company in the attack, including preparation, conduct and reorganization; conference, sand table, field exercise.	Pars. 207–225	Classroom and appropriate terrain.	*For instructor:* blackboard, charts, and sand table. *For students:* notebook, pencil, individual and company combat equipment including vehicles.
2	16	Company as advance guard for reinforced armored infantry battalion in attack during exploitation; conference, sand table, field exercise.	Pars. 230–233, 345–347.	Classroom and appropriate terrain.	DO.

3	16	Company in a river crossing; conference, sand table, field exercise.	Pars. 472–487; FM 31–60.	---do----------	All above plus engineer equipment.
4	8	Attack in woods; conference, sand table, field exercise.	Pars. 464–471-----	---do----------	*For instructor:* blackboard; charts, and sand table. *For students:* notebook, pencil, individual and company combat equipment including vehicles.
5	16	Attack of towns; conference field exercise.	Pars. 507–509; FM 31–50, pars. 67–83.	---do----------	Do.
6	16	Night attack; conference, sand table, field exercise.	Pars. 449–463-----	---do----------	Do.

[1] P—period.
[2] H—hours.
[3] All references are to FM 7–17 unless otherwise indicated.

3. Armored infantry rifle company (144 hours)—Continued

P [1]	H [2]	Lesson	Text references [3]	Area	Training aids and equipment
7	16	Company in sustained defense; conference, sand table, field exercise.	Pars. 234–258	Classroom and appropriate terrain.	*For instructor:* blackboard; charts, and sand table. *For students:* notebook, pencil, individual and company combat equipment including vehicles.
8	8	Defense of a river line; conference, sand table, field exercise.	Pars. 533–539	do	Do.
9	4	Defense of towns; conference, tactical walk, field exercise.	Pars. 547–552; FM 31–50, pars. 91–101; FM 100–5, pars. 824–828.	do	Do.

10	4	Daylight withdrawal; conference, sand table, field exercise; delaying action.	Pars. 428–433	do	Do.
11	4	Night withdrawal; conference, field exercise.	Pars. 428, 434–441.	do	Do.
12	8	Company on outpost in mobile defense; conference, sand tables, field exercise.	Pars. 259–267	do	Do.
13	4	Defense against chemical, biological and atomic attack.	Pars. 278, 284; FM 21–40.	Classroom and appropriate terrain.	Do.
14	4	Air transportability	TM 71–210	Classroom and mockup area.	Selected air transportable equipment.

[1] P—period.
[2] H—hours.
[3] All references are to FM 7–17 unless otherwise indicated.

931358°—51——41

4. Armored infantry battalion 81-MM mortar platoon (144 hours).

P [1]	H [2]	Lessons	Text references [3]	Area	Training aids and equipment
1	20	81-mm mortar platoon in the attack; conference, sand table, field exercise including firing at field targets.	Pars. 292, 323, 324.	Classroom and appropriate terrain.	*For instructor:* blackboard and charts. *For students:* notebook, pencil, individual equipment and vehicles.
2	16	Support of a rifle company in the advance guard.	Pars. 222, 230, 232, 292.	With rifle company.	Do.
3	16	Support of a rifle company in a river crossing.	Pars. 472–487; FM 31–60.	With rifle company.	Do.
4	8	Support of a rifle company in attack of woods.	Pars. 464–471	do	Do.

5	16	Support of a rifle company in attack of towns.	Pars. 507–509; FM 31–50 pars. 67–83.	do	Do.
6	16	Support of a rifle company in a night attack.	Pars. 457, 458, 462–463.	do	Do.
7	16	81-mm mortar platoon in defense. Conference, sand table, field exercise including firing at field targets.	Pars. 372, 380–385, 399–400.	Classroom and appropriate terrain.	Do.
8	8	Support of a rifle company in defense of a river line.	Pars. 533–539; FM 7–20 pars. 355–362.	With rifle company.	Do.
9	4	Support of a rifle company in defense of towns.	Pars. 547–552, FM 31–50 pars. 91–101.	With rifle company.	Do.
10	8	Support of a rifle company on outpost in mobile defense.	Pars. 259–267, 417.	do	Do.

[1] P—period.
[2] H—hours.
[3] All references are to FM 7–17 unless otherwise indicated.

4. Armored infantry battalion 81-MM mortar platoon (144 hours)—Continued

P [1]	H [2]	Lessons	Text references [3]	Area	Training aids and equipment
11	4	Retrograde movements; conference, field exercise.	Pars. 428–448	Classroom and appropriate terrain.	*For instructor:* blackboard and charts. *For students:* notebook, pencil, individual equipment and vehicles.
12	4	Support of a rifle company in a daylight withdrawal.	Pars. 429–433	With rifle company.	Do.
13	4	Support of a rifle company in a night withdrawal.	Pars. 434–441	do	Do.
14	4	Air transportability	TM 71–210	Classroom and mock-up area.	Selected air transportable equipment.

5. Armored infantry battalion reconnaissance platoon (See FM 17–22).

6. The armored infantry battalion (144 hours).

P [1]	H [2]	Lessons	Text references [3]	Area	Training aids and equipment
1	26	Tactical marches and bivouacs to include night marches and occupation of bivouac at night.	Pars. 41–73	Field	Vehicles and combat equipment; blackboard for critique.
2	4	Occupation of assembly area and attack position at night, and preparation for a daylight attack.	Pars. 74–78, 216, 330.	do	Do.
3	16	Daylight attack of an organized position.	Pars. 313–339	do	Do.
4	6	Attack of mine fields and obstacles.	Pars. 221, 313–339.	do	Do.
5	6	Sustained defense of a position on a main line of resistance to include organization, occupation, and conduct of the defense.	Pars. 358, 361–401.	do	Do.

[1] P—period.
[2] H—hours.
[3] All references are to FM 7–17 unless otherwise indicated.

6. The armored infantry battalion (144 hours)—Continued

P [1]	H [2]	Lessons	Text references [3]	Area	ain ing aids and equipment
6	14	Mobile defense to include include organization and occupation of outpost and conduct of counterattack by battalion reserve.	Pars. 411–427	Field	Vehicles and combat equipment; blackboard for critique.
7	2	Daylight withdrawal	Pars. 429–433	do	Do.
8	4	Night withdrawal	Pars. 434–441	do	Do.
9	2	Delaying action	Pars. 442–447	do	Do.
10	4	Attack of a town	Pars. 507–509; FM 31–50, pars. 67–76.	Field, built-up area.	Do.
11	12	Attack of a river line	Pars. 472–487	Unfordable stream	Do.

12	26	Exploitation	Pars. 343–355	Field area with usable road at least 25 miles long.	Do.
13	4	Night attack with tanks	Pars. 449–463; FM 17–32.	Field	Do.
14	44	Attack of fortifications	Pars. 510–512; FM 31–50, pars. 41–63.	Prepared fortified position.	Do.
15	4	Attack in woods	Pars. 464–471	Wooded area	Do.
16	8	Attack from march column	Pars. 222, 345–349.	Road with maneuver areas both sides.	Do.
17	2	Partisan warfare, conference	Pars. 557–564	Classroom	*For instructor:* blackboard.

[1] P—period.
[2] H—hours.
[3] All references are to FM 7–17 unless otherwise indicated.
[4] These periods may be combined.

7. Minimum essential intelligence training program (6 hours).

P [1]	H [2]	Lessons	Text references [3]	Area	Training aids and equipment
1	2	Safeguarding military information. (During 5th week of basic training.)	AR 380–5	Classroom	*For instructor:* blackboard. TF 30–2033. *For student:* notebook, pencils.
2	4	Handling documents; gathering, reporting, and safeguarding military information. (During 7th week of basic training.)	FM 30–5; FM 30–25; AR 380–5.	Classroom and appropriate terrain.	*For instructor:* necessary assistants, blackboard. TF 30–2102. *For student:* notebook, pencils.

[1] P—period.
[2] H—hour.
[3] All references are to FM 7–17 unless otherwise indicated.

8. Reference paragraphs 1–6, inclusive.—Suggested field exercises for the armored infantry battalion and its elements are contained in the succeeding paragraphs.

9. Rifle squad.

a. Point of the advance guard.

Scope

A problem involving the use of the rifle squad as the point of an advance guard.

Situations are drawn to require—

(1) Orders and the initial formation for the advance.

(2) Action of the squad during the advance prior to making contact with the enemy.

(3) Action of the squad when contact with the enemy is made.

Standard procedure

The squad leader's order is brief, concise, and clear, and is based on the platoon leader's order. The order covers the mission assigned to the squad and the initial formation.

The squad precedes the advance party along the axis of advance. It observes toward the front and flanks, and halts only when so ordered by the advance party commander.

The squad leader, through aggressive leadership, controls the action of the squad. The squad attacks all hostile elements within range by fire and reports the presence of these elements to the advance party commander. Hostile elements beyond effective range are reported, but fire is not delivered against them until they are within effective range.

b. Flank guard.

Scope

A problem involving a rifle squad which has been detailed to act as a flank guard to protect a unit on the march.

Situations are drawn to require—

(1) Movement of the squad to a series of designated positions on the flank of a marching column.

(2) Investigation of areas likely to conceal hostile elements or which afford the enemy observation on the marching column.

(3) Selection of firing positions for each man in the squad.

(4) Actions when a hostile force is observed or encountered.

Standard procedure

The squad moves by the most expeditious route to the designated locality to be investigated or occupied.

Vehicles are used by the squad to prevent delay in occupying positions and returning to the column.

The squad leader selects firing positions for each man for all-around security. Observers are posted. Hostile elements are reported to the commander who sent out the squad and are immediately attacked by fire if within effective range.

The squad leader exercises aggressive leadership and initiative in accomplishing the assigned mission and carrying out the orders of the commander who sent him out.

c. Attack.

Scope

A problem involving a rifle squad attacking as part of an assault platoon. Situations are drawn to require—

(1) Occupation of the squad portion of the platoon assembly area, preparations of the squad for attack, and movement to the attack position in carriers.

(2) Squad leader's orders.

(3) Crossing the line of departure.

(4) Conduct of the attack, to include tank-armored infantry coordination.

Standard procedure

The rifle squad occupies a portion of the platoon assembly area as designated by the platoon leader.

The squad leader disperses his men, has them take advantage of cover and concealment, weapons, and equipment. Upon receipt of the platoon leader's order, the squad leader makes a reconnaissance, plans the attack, and issues his orders.

The squad moves to the platoon attack position and across the line of departure under the control of the platoon leader. When first engaging the enemy, the squad leader seeks to establish fire superiority by placing a volume of intense, accurate fire on the enemy. Members of the squad continually move forward covered by the fire of other members of the squad. Coordination with tanks and the request and control of tank fires are included.

The squad leader controls the fire and maneuver of his squad. He places his automatic rifle team in positions from which it can most effectively

c. Attack—Continued

Standard procedure

fire on the enemy and thereby cover the forward movement of other members of the squad. The squad heavy machine gun and the vehicular weapons are employed for fire support. When the assault position is reached, the squad leader causes the squad to launch the assault in accordance with the platoon leader's instructions.

When the objective is captured, the squad leader, in accordance with the platoon leader's orders, moves his squad into position to repel an enemy counterattack. When his vehicle and all men are in position, he reorganizes his squad and checks the condition of the men and of the weapons, and reports the status of ammunition requirements to the platoon leader. Reconnaissance relative to continuation of the attack is begun.

d. Infiltration.

Scope

A problem involving the rifle squad in infiltration.

Situations are drawn to require—

(1) Preparation, reconnaissance, and orders by the squad leader.

(2) Actions of the squad in carrying out the assigned mission.

Standard procedure

Based on orders from the platoon leader, the squad leader selects the point at which the squad will pass the friendly outpost, selects the route from the assembly area to the friendly outpost line, reconnoiters the terrain over which the squad is to move, selects tentative rallying points at which the squad will reassemble if members become separated, selects an assembly area within enemy lines, and issues a clear, detailed order indicating what each individual is to accomplish.

The squad advances silently in column. Security is provided to the front and flanks. The squad leader moves where he can best control the squad and constantly checks the route and direction. Enemy outposts are avoided or eliminated as quietly as possible. The squad moves into the designated assembly area. The squad leader exercises aggressive leadership and initiative in accomplishing the assigned mission.

e. Defilade for armored vehicles; firing positions; employment of vehicular weapons.

Scope

A problem involving the use of vehicular armament.

Situations are drawn to require—

(1) Use of vehicular weapons from carrier in defilade.

(2) Use of vehicular weapons on ground mounts.

Standard procedure

The squad leader is given two situations which require the use of vehicular weapons for fire support. The terrain in one situation prohibits the use of vehicles and necessitates employment of weapons on ground mounts. The squad leader appoints gun crews for the weapons and selects the gun positions.

Terrain in the second situation is favorable for armored vehicular movement. Squad leader sites carriers in defilade to furnish supporting fires and appoints gun crews.

f. Defense.

Scope

A problem involving a rifle squad as part of a platoon in the organization, occupation, and defense of an interior front-line defense area in sustained defense.

Situations are drawn to require—

(1) The squad leader's order.

(2) Organization and occupation of the squad defense area.

(3) Conduct of the defense to include:

(*a*) Fire control.

(*b*) Final protective fires.

(*c*) Action against an enemy penetration of an adjacent defense area.

(*d*) Occupation of supplementary positions to meet a threatened envelopment of the platoon defense area.

Standard procedure

The squad leader, having been assigned a defense area, determines the exact location for each member of the squad and individual sectors of fire. When practicable, he issues the defense order on the position.

During the organization of the position, the squad leader supervises closely the execution of the assigned tasks. The defense area, when organized, provides overlapping fires to both flanks.

During the hostile attack, the squad leader controls the fire of his squad to defend the position and to render assistance to adjacent units. He participates in the fire fight only to assist in close-in defense of the squad.

g. Roadblock and outpost.

Scope

A problem involving a rifle squad as a roadblock force for a rifle platoon assigned to an outpost in mobile defense.

Situation is based on the establishment of a roadblock in conformity with the orders of the platoon leader and is drawn to require—

(1) Reconnaissance of the designated roadblock position and the selection of individual firing positions.

(2) Establishment of the roadblock position by the squad leader.

Standard procedure

The squad leader reconnoiters the assigned position and selects positions for individuals in the squad which permit good observation and long fields of fire.

The road block is organized, foxholes are dug, the position is camouflaged and routes of withdrawal are selected. Physical obstacles or mines are emplaced. Sentinels and listening posts are established and patrols are detailed in accordance with instructions from the platoon leader.

The roadblock gives warning of the approach of hostile forces and opens fire at long range. The outpost continues to fire on the enemy until ordered to withdraw by the combat outpost commander. The withdrawal is made in accordance with his instructions over a route which does not interfere with fire from the battle position.

10. Light machine-gun squad.

a. Fundamentals.

Scope

A problem involving the light machine-gun squad in support of the rifle platoon in the approach march and preparation for an attack.

Situations are based on the platoon leader's orders, which require—

(1) Squad leader's recommendations to the rifle platoon leader regarding employment of the squad.

(2) Coordination with the rifle squads.

(3) Continuous reconnaissance during movement forward.

(4) Selection and occupation of firing positions and target areas.

Standard procedure

The squad leader reports to the platoon leader for orders.

After receipt of orders the squad leader makes recommendations for employment of the squad *in the approach march.*

During the move the squad leader looks for possible firing positions and routes thereto.

Occupation of firing positions is executed promptly and aggressively. Maximum use is made of vehicular armament. Movement is made on carriers.

931358°—51——42

b. Squad in the attack.

Scope

A problem involving a light machine-gun squad in support of the rifle platoon in the attack.

Situations are drawn to require—

(1) Light machine-gun squad initially in support of the rifle elements.

(2) Execution of fire support during the attack and assault.

(3) Reconnaissance for new positions, targets or sectors of fire and occupation of selected firing positions.

(4) Security measures during the attack.

(5) Replacement of ammunition.

(6) Reorganization.

Standard procedure

The squad leader places himself where he can observe and control the fire of his squad. He constantly looks for new targets.

He accomplishes his mission by issuing timely fire commands.

He makes recommendations to the platoon leader regarding displacements.

He directs the displacement of the squad to new firing positions. Carriers are used to the fullest extent possible.

He maintains close communication and contact with the platoon leader.

Weapons are located to take advantage of nearby riflemen for security. Otherwise the squad provides its own security.

Maximum use is made of vehicular armament.

A continuous supply of ammunition must be maintained.

He selects and directs occupation of positions during reorganization. Redistributes ammunition. Makes preparations for continuing the attack or to repel hostile counter-attack.

c. Conduct of the defense.

Scope

A problem involving the machine-gun squad *occupying positions in support of the rifle platoon* on the main line of resistance.

Situation is drawn to require—

(1) Accurate fire placed immediately on targets of opportunity.

(2) Action when final protective fires are called for.

(3) Action during artillery bombardment and air attack.

(4) Action during a tank-infantry attack.

(5) Action against attack from the flanks or rear.

(6) Reorganization.

Standard procedure

The squad engages immediately with accurate *fire remunerative targets within sector of fire. Fire* is not opened at ranges greater than 600 yards.

The squad fires final protective fires immediately upon command or prearranged signal, or when infantry units reach final protective line.

During artillery bombardment and air attack, personnel take cover. They are prepared to man weapons immediately after lifting of hostile fire.

During a tank-armored infantry attack, the machine guns fire at enemy foot troops until accompanying tanks are so close that the machine guns are in danger of being crushed. The guns are then lowered into the emplacement. Guns

c. *Conduct of the defense*—Continued

Standard procedure

are mounted again as soon as the tanks have passed.

If the enemy encircles the position, the guns are moved to alternate or supplementary positions to fire at targets most dangerous to maintenance of the position.

Full use of vehicular armament is made. Carriers are moved to the rear in defilade positions.

Reorganization is effected as soon as possible after hostile attack.

d. *Retrograde movements.*

Scope

A problem involving the squad in support of the rifle platoon in a withdrawal. The withdrawal is initiated without prior warning.

Situation is drawn to require—

(1) Close fire support to cover the withdrawal of the rifle elements.

(2) Evacuation of ammunition.

Standard procedure

Upon orders of the platoon leader, the machine guns continue to fire to allow withdrawal of the bulk of the rifle elements.

As much ammunition as possible is carried to the rear.

Squad leader selects route of withdrawal and passes on instructions to the squad. He orders

(3) Movement by use of covered routes to new firing positions in the rear.	withdrawal of the squad upon authority of the platoon leader. He selects, and has the squad occupy, firing positions in the next platoon delaying position or directs the squad to the platoon assembly position. Reorganization to include mounting carrier and preparation for further movement to the rear.

e. Support of a rifle platoon in the attack and defense. See paragraph 1*a*, this appendix. The light machine-gun squad is tied in with the field exercise for the rifle squads, and as each situation occurs for the rifle squad, the machine-gun squad is required to support it.

11. Rifle platoon.

a. Attack.

Scope	*Standard procedure*
A problem involving an interior rifle platoon, as part of a larger force in the assault echelon. Situations are drawn to require—	The platoon leader, with such assistants as he may select, makes a thorough reconnaissance. He prepares his plan of attack, and issues his orders

a. *Attack*—Continued

Scope

(1) Movement from a tactical march into an assembly area, preparation of the platoon for the attack, and movement from the assembly area to an attack position.

(2) Reconnaissance and observation of the ground over which the platoon is to attack.

(3) Plan of maneuver to include details of tank-armored infantry coordination.

(4) Plan of supporting fires.

(5) Orders.

(6) A series of decisions and orders by the platoon leader during the attack to cope with developments.

(7) Assault of the enemy's position.

(8) Reorganization.

Standard procedure

from a concealed point where, if possible, the ground over which the platoon is to attack can be pointed out. He coordinates any special tank-armored infantry communication to be employed such as colored smoke, flares, and arm-and-hand signals. Radio channels between the tanks and armored infantry are stressed. His decisions and orders during the attack are prompt, clear, and concise. By aggressive leadership he controls his platoon during the attack and the assault.

Upon capture of the objective, the platoon leader supervises the reorganization of his platoon. When necessary, he alters the instructions issued in the attack order. Carriers are integrated into the defense of the objective.

Weapons cover avenues of enemy approach and rifle squads are assigned sectors to defend.

Communication with supporting weapons is established promptly.

The platoon leader controls the fires of his platoon in repelling a counterattack.

Squad leaders begin reorganization of their squads as soon as they are in position to repel a counterattack. Reports from squad leaders are consolidated, adjustments made where necessary, and a report is sent to the company commander.

Casualties, prisoners, and battlefield intelligence are sent to the rear promptly.

b. Attacking through mine fields, against antitank gun positions, and against hostile tanks.

Scope

A problem involving a platoon team of a tank platoon and an armored infantry rifle platoon in attack of a position organized with deliberate mine fields and belts of obstacles which are supported by tanks.

Situations are drawn to require—

(1) Establishment of a bridgehead across the antitank mine field by the dismounted armored infantry supported by tank gun fire.

Standard procedure

The platoon team launches its attack with dismounted armored infantry leading, supported by the tanks of the team. The platoon establishes a bridgehead across the mine field. The armored engineers establish contact with the rifle platoon and come forward to gap the mine field. The rifle platoon then continues the attack, supported by the tanks of the team. An unarmored antitank gun is destroyed by small arms fire and

b. Attacking through mine fields, against antitank gun positions, and against hostile tanks—Continued

Scope

(2) Coordination between armored infantry in the bridgehead and armored engineers who came forward to gap the mine field.

(3) Armored infantry using infantry weapons against unarmored antitank guns.

(4) Armored infantry using rocket launchers against isolated enemy tanks.

(5) Organization and occupation of the platoon defense area.

(6) Conduct of the defense to include—

Fire control.

Final protective fires.

Action against an enemy penetration of an adjacent platoon defense area.

Occupation of one or more squad supplementary positions to meet a threatened envelopment of the platoon defense area.

Standard procedure

grenades. During the mop up on the objective, an enemy tank, with a track blown off, is encountered. The tank crew are still using the tank cannon and machine guns. A rocket launcher team is sent out by the platoon leader to destroy the hostile tank. During the organization of the position, the platoon leader and squad leaders closely supervise and control all tasks to see that the defense plan is carried out.

The platoon leader, through aggressive leadership, uses all the means at his disposal to defend the position and to assist adjacent units.

c. Attack from march column.

Scope

A problem involving a platoon of armored infantry and a squad of armored engineers attached to a tank platoon which is leading a reinforced battalion on exploitation.

Situations are drawn to require—

(1) *Arrangement of the elements in the column.*

(2) Communication; dismounted and mounted.

(3) Action when defended roadblocks are encountered.

(4) Action when blown bridges over unfordable streams are encountered.

Standard procedure

The platoon leader's plan and order is based on the company order. It is simple. Provisions are made for likely eventualities.

The tanks, armored infantry, and armored engineers are arranged in the column in the order of their anticipated employment. Radios are checked in the assembly area prior to moving out to the march column.

The team advances down a road (axis of advance) until a defended roadblock is encountered. Armored infantry dismounts and assaults defenders supported by tank fire. Armored engineers come forward and remove the roadblock obstacle.

Company commander (simulated) passes new team through the leading platoon while it is reassembling. Team reassembles and assumes new position in the advance guard column.

When the platoon encounters a blown bridge over an unfordable stream, immediate reconnais-

c. Attack from march column—Continued

Standard procedure

sance is instituted to locate any possible fording sites. This is accomplished by use of patrols and personal reconnaissance by the platoon leader.

d. Platoon in a river crossing.

Scope

A problem involving a reinforced rifle platoon, as part of a larger force, in the attack of a river line, and establishment of a bridgehead. Engineers and assault equipment are furnished by higher headquarters.

Situations are drawn to require—

(1) Reconnaissance of the attack position and routes thereto, the crossing site and the terrain on the far bank.

(2) Organization of boat groups and assignment of personnel to boats.

(3) Plans for movement to the river, plan of fire support to include use of tanks and vehicular weapons, disposition of carriers, plan for crossing, landing and employment on far side.

Standard procedure

The platoon leader, with his subordinate leaders, makes reconnaissance of routes to assembly position, crossing site and terrain on far side.

He plans the movement to the river, the details of crossing, boat loading plans, priority of crossing, fire support and tactical employment to establish bridgehead.

He issues orders to the squads.

He controls the movement during progress of the crossing and conducts reorganization on the far side of the stream.

He then has the platoon deploy and take up positions in the bridgehead in order to allow succeeding units to make the crossing with a minimum of delay.

(4) Orders of leaders.

(5) Crossing and establishment of bridgehead.

A section of tanks is ferried across the stream.

e. Platoon in attack of a village.

Scope

A problem involving a reinforced rifle platoon, as part of a larger force, in the attack of a defended village.

Situations are drawn to require—

(1) Platoon as enveloping force attacks the town from a flank.

(2) Actions and orders of platoon leader and subordinate leaders.

(3) Movement in vehicles to line of deployment.

(4) Deployment and movement in the attack.

(5) Seizure of key terrain in order to cut hostile escape route.

(6) Assault of objective supported by tanks and automatic weapons.

(7) Reorganization.

Standard procedure

The platoon with tanks attached is the enveloping team of a reinforced armored infantry company.

The attack is launched by having the platoon move to a flanking position in carriers, dismount and deploy preparatory to assaulting the defenses of the town.

The platoon leader conducts reconnaissance of route and line of departure and issues orders for the attack.

The attack is made by armored infantry supported by tanks. Contact, visual and radio, is maintained with higher headquarters and adjacent platoon. Enemy escape routes are cut.

e. Platoon in attack of a village—Continued

Standard procedure

Artillery forward observation methods are employed to obtain additional fire support. Artillery forward observers accompany the team.

Reorganization and consolidation of position is made as soon as objective is taken.

f. Platoon in attack of woods.

Scope

A problem involving a reinforced armored infantry rifle platoon as an interior platoon in the attack of a woods.

Situations are based on the assumption that the platoon has gained the near edge of the woods, reorganized and is ready to continue the attack.

Situations are drawn to require—

(1) Use of security elements to cover the advance.

(2) Movement by bounds along a predesignated azimuth.

Standard procedure

Security elements precede the platoon, reconnoitering to the front and flanks. The platoon advances upon signal.

The formation of the platoon varies with the density of the woods. When advancing through the woods the platoon leader supervises the movement. He takes precautions to prevent loss of direction, maintains contact with adjacent units, and provides for flank and rear security.

Movement is made by bounds. The attack on hostile resistance consists of a series of maneuvers to gain local objectives.

(3) Formation.

(4) Flank protection.

(5) Actions and orders of platoon leader upon encountering resistance.

(6) Tank-armored infantry coordination.

g. Attack of a roadblock.

Scope

A problem involving a reinforced rifle platoon as the leading elements of a rifle company in the attack of a roadblock from march column.

Situations are drawn to require—

(1) Reconnaissance and continued surveillance along the route of march.

(2) Plans and orders of platoon leader upon encountering enemy resistance.

(3) Movement from route of advance to attack position.

(4) Assault of roadblock.

(5) Use of engineers to reduce physical obstacle.

(6) Remount vehicles and continue the advance.

Tanks are employed wherever possible in support of foot elements.

Carriers are moved forward on trails or rejoin after the woods has been cleared.

Standard procedure

The platoon, reinforced by engineers and a section of tanks, is the covering force for a reinforced armored infantry battalion. The platoon leader prescribes the formation for the advance and controls the rate of march. He maintains constant vigil and surveillance of the route and provides adequate security to prevent surprise by the enemy.

Upon encountering resistance from a roadblock, he moves the platoon to the attack as quickly as possible in order to insure the uninterrupted advance of the battalion.

The platoon reduces the enemy resistance by flanking maneuver supported by automatic weapons and tank fire.

g. Attack of roadblock—Continued

Standard procedure

After capture of the roadblock, the platoon leader coordinates with the engineer liaison officer who advises how to clear the obstruction, or requests additional assistance from other units in the column.

After clearing the roadblock, the march is resumed.

h. Night attack.

Scope

A problem involving the employment of a rifle platoon, as part of a larger force, in a night attack.

Situations are based on an attack shortly before daylight to seize a limited objective which will facilitate continuation of the attack after daylight; or an attack shortly before nightfall to exploit a successful day attack. They are drawn to require—

Standard procedure

After receiving the company commander's orders, the platoon leader reconnoiters in detail the terrain from the assembly area to the objective.

The platoon leader's plan and attack order is based on the company attack order. It is simple. Provisions are made for likely eventualities.

(1) Reconnaissance of routes, line or point of departure, and of the ground over which the attack will be made.

(2) Formulation of plan and issuance of order by the platoon leader.

(3) Details of tank-armored infantry coordination when tanks are used.

(4) Maintenance of direction, contact, security, and control during silent advance to the line of deployment.

(5) Assault of the objective.

(6) Reorganization after capture of the objective.

The platoon leader disposes his unit in the formation ordered by the company commander; he marches at the head of his column and constantly checks on the maintenance of direction and contact. He sends out necessary security elements and controls their actions; and sees that the advance is made quietly with all secrecy measures enforced.

The platoon advances in column to the line of deployment where it silently deploys as skirmishers. However, if tanks are employed, the armored infantry ride the tanks to the line of deployment. After deployment, the advance continues at a walk in coordination with the advance of the remainder of the company.

The assault is launched aggressively as soon as hostile resistance is encountered or the attack is discovered.

Upon capture of the hostile position, the platoon is disposed to repel a hostile counterattack and prepares to continue the attack.

i. Platoon in sustained defense.

Scope

A problem involving a team of one armored infantry rifle platoon with a tank section attached in defense.

Situations are drawn to require—

(1) Plan for the defense.
(2) Selection of positions for tanks.
(3) Use of vehicular armament.
(4) Conduct of the defense.

Standard procedure

The platoon leader makes reconnaissance of the ground. He uses natural obstacles to strengthen his defensive position. Vehicular armament, on ground or on vehicular mounts, is integrated into the defense. Firing positions are selected for the tanks. An enemy attack is repulsed by fire.

j. Platoon in mobile defense.

Scope

A problem involving a rifle platoon as part of the outpost in mobile defense. The platoon has *tanks* attached.

Situations are based on the establishment of the outpost, in conformity with orders of the company commander, and are drawn to require—

(1) Reconnaissance of the designated position and the selection of positions by the platoon leader.

Standard procedure

The platoon leader makes a map or visual reconnaissance of the outpost position. He selects terrain for squad positions which affords long-range observation and fields of fire. Squad teams organize their positions. Sentinels or patrols are used to the front, flanks, and rear, to furnish security. Provisions are made for patrolling between squads and for contact with adjacent outpost positions.

(2) The platoon leader's establishment of the outpost to furnish the required security.

(3) Actions of the outpost.

931358°—51——43

k. Defense at night.

Scope

A problem involving an interior rifle platoon in the organization, occupation, and defense of an interior front line platoon defense area.

Situations are drawn to require—

(1) A daylight reconnaissance and a movement to the area at night.

(2) Plans and orders for the defense.

(3) Organization and occupation of the defense area by the platoon.

(4) Conduct of the defense.

The outpost warns of the approach of a hostile force and opens fire at long range with all available weapons. The outpost delays the enemy's attack until he is within assaulting distance or threatens to envelop the outpost position. The outpost then withdraws by previously selected route to alternate positions.

Standard procedure

The platoon leader precedes the platoon, reconnoiters the area, formulates his plan, and issues his order to subordinate leaders.

During organization and occupation of the area, the platoon leader and squad leaders supervise all tasks to see that the defense plan is carried out.

Conduct the defense to include fire control, final protective fires, action against enemy infiltration and patrols, action against an enemy penetration of an adjacent area, occupation of supplementary positions, establishment of outpost and warning system, and provision of adequate security.

l. Retrograde movements.

Scope

A problem involving the withdrawal of a front line rifle platoon as part of a larger force.

Situations are drawn to require—

(1) Reconnaissance of the platoon area and routes of withdrawal.

(2) Issuance of orders.

(3) Designation and employment of the covering force.

(4) Withdrawal of tanks and carriers.

(5) Control measures for movement of the platoon to the company assembly area.

(6) Sequence of withdrawal of personnel.

(7) Secrecy measures.

(8) Ammunition supply.

Standard procedure

Men selected by the platoon leader mark routes of withdrawal and reconnoiter and mark assembly areas. Reconnoitering groups are small. Routes are chosen which can be easily identified. Guides for vehicles are designated.

The platoon leader personally issues the withdrawal order to his subordinates.

When practicable, integrity of squads is maintained in designating the platoon covering force.

Rearward movement begins after dark in accordance with battalion orders. Men move to squad assembly areas where squad leaders regain control and move squads to the platoon assembly area. Carriers are located in platoon assembly area. The squads mount and the platoon withdraws as a tactical march to the rear. The covering force simulates normal activity. Sufficient ammunition for its needs is left with the covering force; surplus ammunition is carried to the rear or made useless.

12. 60-mm mortar platoon.

a. Attack.

Scope

A problem involving the employment of the 60-mm mortar platoon as part of a rifle company in the assault echelon.

Situations are drawn to require—

(1) Movement from tactical march into an assembly area, preparation of the section for the attack, and movement from the assembly area to the firing position.

(2) Reconnaissance for firing positions.

(3) Platoon leader's order.

(4) Occupation of positions.

(5) Fire support of assault platoons.

(6) Displacement to continue close support for assault platoons.

(7) Employment of the section in support of the company to repel a hostile counterattack to include use of vehicular armament.

Standard procedure

Movement into the assembly area is quiet and orderly.

The platoon leader makes a thorough reconnaissance of the firing position area. He issues his orders from a concealed point where, if possible, the ground over which the attack is to be made can be observed.

He supervises the occupation of firing positions and the movement of the weapons carrier. During the attack he controls the fire of his platoon and displaces forward, when necessary, to closely support the assault platoons. He anticipates the resupply of ammunition and uses his weapons carriers to the maximum extent for this purpose.

Upon capture of the initial company objective, the platoon leader supervises the displacement to previously reconnoitered firing positions from which the section can cover hostile avenues of approach. He sees that the displacement is

a. Attack—Continued

Standard procedure

prompt and that communication with forward observers is maintained.

When a hostile counterattack is made against the position, he controls the fire of the platoon in support of the rifle company.

b. Defense.

Scope

A problem involving the employment of the 60-mm mortar platoon as a part of a rifle company, in the organization, occupation, and defense of an interior front-line company defense area in sustained defense.

Situations are drawn to require—

(1) Reconnaissance of the area.

(2) Section leader's order.

(3) Organization and occupation of the positions.

(4) Preparation of firing data for concentrations and barrages.

(5) Supporting fires during the defense.

Standard procedure

The platoon leader reconnoiters the position area, formulates a plan for employment of the platoon and issues his order so that the section can move into the area without delay.

He supervises the organization of the position, seeing that full use is made of natural features for camouflage and concealment and that the defense plan is carried out. Firing data is prepared, ammunition stored, and communications established.

During the hostile attack, he controls the fires of the section and uses all the means at his disposal to maintain adequate fire support for the company.

c. Support of a rifle platoon in attack and defense. See paragraph 1*c*, this appendix. The mortar platoon is tied in with the field exercises for the rifle platoon and as each situation occurs for the rifle platoon, the mortar platoon is required to support it.

13. Rifle company.

a. Attack.

Scope

A problem involving a rifle company with a tank platoon attached, as part of a larger force, in the assault echelon.

Situations are drawn to require—

(1) Movement from tactical march into the assembly area, preparation of the company for the attack, and conduct of the attack.

(2) Reconnaissance and observation of the ground over which the team is to attack.

(3) Troop leading procedure by the team commander.

(4) A series of decisions and orders by the company commander during the attack relating to the use of the assault rifle platoons, the tank platoon, the mortar platoon, the support platoon, and supporting fires in gaining the company objective.

Standard procedure

The platoons occupy portions of the assembly area in accordance with their expected future employment. Necessary steps are taken to establish camouflage and security. Troops are rested. Vehicles, weapons, and radios are checked. Ammunition and rations are issued.

The company commander, with selected assistants, accomplishes the various phases of troop leading procedure. They culminate in an order issued to the platoon leaders and other necessary subordinates from a concealed point where, if possible, the terrain over which the company is to attack can be pointed out.

Movement from the attack position is initiated to permit the assault platoons to cross the line of departure at the prescribed time without halting.

a. Attack—Continued

Scope

(5) A series of terrain conditions and enemy situations which require all three methods of advance to be employed by the armored infantry elements during the attack.

(6) Assault and capture of the company objective.

(7) Reorganization.

Standard procedure

During the conduct of the attack, the company commander aggressively controls the actions of the assault platoons; uses the vehicular weapons and mortar platoon to assist most effectively the advance; coordinates the tanks and armored infantry; and uses the support platoon, if necessary, in the way which will best influence the decision; and calls for additional supporting fires from higher headquarters to overcome stubborn resistance.

He provides for mutual support within the assault platoons and with adjacent units; provides for security and the maintenance of contact; and keeps the battalion commander informed of the situation.

He advances his assault platoons as close to the objective as possible in carriers, then lifts or shifts supporting fires and launches the assault.

Immediately upon capture of the objective, the elements of the company occupy positions to repel an enemy counterattack according to the plans

included in the company commander's attack order. The company commander makes necessary adjustments and plans the employment of all available supporting fires.

After all weapons and personnel have been disposed to repel a counterattack, reconnaissance is begun for a continuation of the attack. Concurrently, the company commander causes his platoon leaders to reorganize their platoons. He reports the situation and strength of his company to the battalion commander. Information is reported and prisoners are sent to prescribed collecting points. Resupply of tanks and carriers is executed.

The completion of the reorganization finds the company regrouped and resupplied, an effective team with control reestablished, with sufficient ammunition distributed and sufficient fuel to continue the attack.

b. Advance guard on exploitation.

Scope

A problem involving a rifle company, with a company of medium tanks and a platoon of armored engineers attached, as advance guard for a reinforced armored infantry battalion on exploitation.

Situations are drawn to require—

(1) Issuance of company order prescribing order of march, routes, composition of platoon teams, disposition of trains, and communication.

(2) Movement on axis at least 12 miles; during movement the following actions take place—

Attack of 2 defended roadblocks.

Attack of weakly defended village.

Attack of a position, weak in antitank defense, from march column.

Attack of a bridge to seize crossing intact.

Attack of a river line; company establishes bridgehead.

Standard procedure

The battalion commander issues the attack order to the company commander. Company commander issues his order to include proper arrangement of units in the column, details of coordination, route, phase lines, rates of march, organization of team, disposition of trains, and communication.

The situations listed under scope must be met and solved by the company commander in a minimum of time. A minimum passing time for the execution of the problem should be set. Any team failing to comply with the minimum time restriction must repeat the exercise.

Problem should terminate when the battalion objective is reached. This objective must be at least 12 miles from the starting point.

c. River crossing.

Scope

A problem involving a reinforced rifle company as part of a leading battalion which has been assigned the mission of crossing a river, the far bank of which is held by the enemy. Engineers and assault boats required are made available by higher headquarters.

Situations are drawn to require—

(1) Reconnaissance of the attack position and routes thereto, the crossing site, and the terrain on the far bank.

(2) Organization of boat groups and assignment of personnel to boats by boat group leaders.

(3) Plans for movement to the river, plan of supporting fires to include use of tanks, vehicular weapons, disposition of vehicles, the plan of crossing, and action after landing.

(4) Orders.

(5) Crossing the river and capture of initial objective.

Standard procedure

The company commander uses his subordinates to assist in reconnaissance and in obtaining information relative to the operation. He coordinates plans for the crossing with the leader of the engineer unit assisting his company. He divides the company into boat groups and allots boats to these groups. Tactical unity is maintained as far as practicable.

The movement to the attack position and to the river is planned and executed to avoid pauses and so that boats of the leading wave are launched at approximately the same time. If the crossing is opposed, boat teams advance to the initial objective without attempting to reorganize into platoon groupings. Platoon leaders regain control of their platoons as soon as they can.

d. Attack in woods.

Scope

A problem involving a reinforced rifle company in attack in woods.

Situations are drawn to require—

(1) The company halted within the near edge of the woods.

(2) Issuance of orders for the attack through the woods.

(3) Decisions and orders by the company commander during the advance through the woods relative to frontal and flank security, maintenance of direction and control, and the reduction of resistance to include coordination with attached tanks and use of carriers.

(4) Reorganization within the far edge of the woods and preparation to attack from the woods.

Standard procedure

The company is halted within the near edge of the woods. The proper formation is assumed dependent upon the density of the woods and the amount and type of enemy resistance expected.

After a careful consideration of all information obtainable and of factors influencing operations in woods, the company commander issues a clear, concise order for the advance.

During the advance, the company commander provides frontal and flank security by the use of patrols or connecting groups and, if necessary, he provides rear security for the company. Tanks are protected by the rifle elements and used to assist the advance by knocking out point targets. He assigns a magnetic azimuth to leading platoons and checks to determine that the proper direction is maintained.

Resistance is quickly and aggressively eliminated by a combined frontal attack and flanking action. Tank elements are employed in both groups.

e. Attack of towns.

Scope

A problem involving a reinforced company consisting of an armored infantry rifle company, a medium tank company, and a squad of armored engineers in the attack of a defended village as part of a reinforced tank battalion making an attack from march column.

Situations are drawn to require—

(1) Company to envelop town to cut hostile escape routes.

(2) Attack from march column without moving into an attack position.

(3) Tanks lead followed by armored infantry in carriers to seize key terrain feature which cuts hostile escape route.

(4) Dismounted infantry-tank assault of objective supported by tank fire and carrier machine guns.

The advance is halted near the far edge of the woods, positions are occupied to repel a hostile counterattack, and preparations are made to continue the attack out of the woods.

Standard procedure

The company is the second team in the battalion column. The leading team attacks to penetrate the defenses of the town. This team envelops the town. The attack is launched by having the team continue the march, and change direction cross country to envelop the town. The envelopment is made by tanks accompanied by armored infantry in carriers. About 100–150 yards from the objective the armored infantry dismounts to assault in conjunction with the tanks.

Employment of battalion support weapons and artillery is stressed by assigning artillery forward observers to the team. A minimum of time for the successful execution of the problem should also be established.

f. Night attack.

Scope

A problem involving the employment of a rifle company in a night attack.

Situations are based on an attack shortly before daylight to seize a limited objective to facilitate continuation of the attack after daylight or an attack shortly after nightfall to exploit a successful day attack and are drawn to require:

(1) Daylight reconnaissance of the terrain by the company commander and selected subordinates.

(2) Formulation of the plan and issuance of the order by the company commander.

(3) Execution of the attack.

(4) Reorganization after capture of the objective.

Standard procedure

After receipt of the battalion commander's order, the company commander alerts his company and makes a detailed reconnaissance of the terrain from the assembly area to the objective. He selects an attack position and routes thereto.

The plan of attack is simple and issued as a clear, concise order in time for subordinate leaders to make their own reconnaissance.

The company moves from the attack position to the platoon release point in column. The company commander provides for security to front and flanks and insures the maintenance of direction and control. He requires that the advance be made quietly and that all secrecy measures are enforced. He marches where he can best control the movement of the company.

The company is deployed as skirmishers at the line of deployment; the advance is continuous at a walk.

The assault is launched aggressively as soon as hostile resistance is encountered or the attack

is discovered and is continued until the limit of advance is reached.

Upon capture of the hostile position, the company is disposed to repel a hostile counterattack and preparations are made to continue the attack. Carriers and tanks are brought forward and rejoin the company.

g. Sustained defense.

Scope

A problem involving a rifle company, as part of a larger force, in the organization, occupation, and defense of an interior front-line defense area in sustained defense drawn to require—

(1) Movement of troops to the defense area during the reconnaissance of this area by the company commander and subordinate leaders.

(2) Troop leading procedure by the company commander.

(3) Organization and occupation of the company defense area to include utilization of vehicular weapons, coordination with attached tanks, and disposition of vehicles.

Standard procedure

The company commander makes a tentative plan, based on a thorough map study of the assigned company defense area, and initiates the movement of troops to the area. Accompanied by necessary subordinate leaders, he precedes the company and completes his troop leading procedure so far as is practicable. Orders are issued as soon as the troops arrive to enable work to commence without delay.

The position is organized to provide maximum coverage of the most dangerous avenues of approach, mutual support between front-line platoons and with adjacent company defense areas, all-

g. Sustained defense—Continued

Scope

(4) Conduct of the defense against an attack of hostile combined arms to include—

Action of local security groups.

Action of troops on the main battle position before the enemy assault.

Action of troops on the main battle position during the enemy assault.

Action against an enemy penetration of an adjacent company defense area.

Action against an enemy penetration of a front-line platoon defense area.

Action when the company is surrounded.

Standard procedure

around defense, and protection for supporting weapons located in the company defense area. Foxholes and weapons emplacements are dug and camouflaged. Vehicular weapons are emplaced as necessary and vehicles are sent to the rear on battalion order. Sufficient ammunition is placed on position and arrangements are made for resupply. The company commander closely supervises and controls the organization and occupation of the position to see that his defense plan is carried out.

Local security groups open fire on the enemy at long range, delay him as long as possible, and withdraw by previously selected routes.

Requests for supporting fires are made by the company commander. Troops on the main battle position open fire on appropriate targets when the enemy comes within effective small arms range.

Final protective fires by all weapons and units are delivered against the enemy when he reaches the area covered by these fires.

Assistance is rendered to adjacent company defense areas by flanking fire on any enemy who penetrates their positions.

An enemy penetration of a front-line platoon defense area is resisted by the fires of adjacent platoons and the support platoon.

h. Defense of a river line.

Scope

A problem involving a reinforced rifle company as part of a reinforced armored infantry battalion in mobile defense of a river line.

Situations are drawn to require—

(1) Establishment of an outpost and warning system on the far side of the river.

(2) Reconnaissance for possible crossing sites and routes thereto to meet any attempted enemy crossings.

(3) Assignment of missions to subordinate units.

(4) Redesignation of a support.

(5) Fire support on the near bank.

Standard procedure

The company commander reconnoiters the assigned sector and makes plans to defend the stream line.

He designates foot elements as an outpost on the far side and establishes adequate communication in order to receive timely warning of enemy approach. He plans means by which the outpost can withdraw to the near bank.

He establishes the support and causes its leaders to reconnoiter routes of advance to likely enemy crossing sites so that they can be traversed during daylight or darkness.

He makes plans to support withdrawal of the outpost by automatic, mortar, and tank gun fire;

h. Defense of a river line—Continued

Scope

(6) Use of engineer equipment or field expedients to evacuate the outpost to the near bank.

(7) Meeting and containing of enemy crossings.

Standard procedure

and also to support the effort of the reserve when it is employed.

The company commander employs the support against an enemy crossing attempt to throw it back across the river or to contain it until ordered to withdraw or reinforced by higher headquarters.

i. Defense of towns.

Scope

A problem involving a reinforced rifle company in defense of a town which has been occupied during an exploitation.

Situations are drawn to require—

(1) Reconnaissance of the town, its approaches, and the terrain surrounding the town.

(2) Occupation of the key terrain surrounding the town.

(3) Blocking of the avenues of approach into town.

(4) Support elements garrisoning the town.

Standard procedure

The company seizes the town about 1500 (problem time) and is told to defend the town and remain in the area until ordered to proceed on exploitation.

Company commander makes his reconnaissance for key terrain, routes into the town, obstacles, and likely locations for roadblocks. Platoon teams occupy the key terrain and detachments establish roadblocks on road leading into town. The support platoon garrisons the town but remains mobile and prepared to move to support any element of the team which is endangered.

931358°—51——44

After the town is organized, the enemy attacks one of the roadblocks but is repulsed. Problem terminates when team is ordered to continue the advance by the battalion commander.

j. Daylight withdrawals and delaying actions.

Scope

A problem involving a rifle company with a tank company attached as covering force for a reinforced battalion executing a daylight withdrawal.

Situations are drawn to require—

(1) Occupation of initial position.

(2) Conduct of delay on initial position.

(3) Reconnaissance for routes and successive positions.

(4) Occupation of successive positions.

Standard procedure

The battalion commander prescribes the initial position for the covering force and the length of time this initial position is to be held. The company commander supervises the occupation of the initial position and the actions of the team on this position. A hostile force is engaged by fire as soon as it is observed approaching the position. When the position has been held the prescribed time, the team withdraws to the next position. During the action on the initial position, the company reconnoiters for routes to successive positions. The withdrawal between positions is conducted in carriers.

The problem terminates when the company has successfully withdrawn to the second position and organized it for defense.

k. Night withdrawal.

Scope

A problem involving the night withdrawal from contact of a reinforced rifle company.

Situations are drawn to require—

(1) Reconnaissance of the company assembly area and routes of withdrawal.

(2) Issuance of the order.

(3) Designation of the company covering force, its commander, and instructions relative to the accomplishment of its mission.

(4) Control and secrecy measures relative to the movement.

(5) Measures to provide for rear, flank, and antitank security.

(6) Ammunition supply and the evacuation of wounded.

(7) Withdrawal of tanks and carriers.

(8) Execution of the withdrawal.

Standard procedure

The order for a night withdrawal is issued to the company commander in sufficient time to allow him to make a daylight reconnaissance. The company commander, accompanied by designated subordinate leaders, selects a company assembly area and routes to it. He makes his plan of withdrawal and issues his order.

He designates the units of the company which will comprise the covering force and appoints its commander.

Activity which might indicate a withdrawal is restricted.

Security to rear and flanks is furnished by the covering force and patrols.

The covering force protects the withdrawal of the company and withdraws on order of the company commander or according to a prearranged time schedule.

Tanks and carriers are withdrawn just before darkness or withdrawn after dark if visibility permits.

Provisions are made for the evacuation of casualties. Sufficient ammunition is left with the covering force; the remainder is evacuated or destroyed.

Rearward movement begins after dark. Platoons move to the company assembly area in small columns where they mount carriers. Further withdrawal is conducted as a tactical march to the rear.

l. Company on outpost in mobile defense.

Scope

A problem involving a reinforced rifle company as outpost in mobile defense.

Situation is drawn to require—

(1) Plans and orders of the company commander relative to—

Exact location of the roadblocks and platoon areas.

Organization of the positions.

Employment of supporting weapons.

(2) Organization and occupation of the positions.

Standard procedure

The company commander makes such reconnaissance as is necessary to determine the exact location for the roadblocks, the plans for their defense, and the location of avenues of hostile armored approach and key terrain features.

Observation posts and security detachments are employed forward of each posiiton and all-around protection is provided. Supporting weapons are used to cover avenues of approach to the roadblocks. Vehicles are kept readily accessible to each squad.

l. Company on outpost in mobile defense—Continued

Scope

(3) Conduct of the defense of the roadblocks and key terrain features.

(4) Support of counterattacking force by fire.

Standard procedure

The company commander supervises the construction of the roadblocks from such materials as are available. He assigns specific tasks and prescribes the sequence in which they are to be performed so that the positions are organized within the time available.

Small hostile groups are allowed to approach close to the roadblocks where they are captured or destroyed by surprise action. Large enemy forces are denied the positions by the aggressive action. The company commander keeps the battalion commander informed of the situation. When the battalion reserve launches its counterattack, the outposts support its fire. No obstacles or mine fields are employed by the outpost company which would hinder the maneuver of the battalion reserve.

14. 81-mm mortar platoon.

a. Platoon in the attack.

Scope

A problem involving the 81-mm mortar platoon in direct support of a rifle company in a daylight attack. At the start of the problem the platoon is on carriers in the battalion column. The leading rifle company encounters resistance of such a nature that the fire of the mortar platoon is required to support the action.

Situations are drawn to require—

(1) Movement from march column to selected firing position.

(2) Occupation of position and preparations for fire support.

(3) Execution of fire support during company's attack and assault.

(4) Reconnaissance for new positions and targets.

(5) Displacement forward on carriers and on foot.

(6) Security measures taken.

Standard procedure

The platoon leader is ordered to move to the rear of the leading company, select firing positions, and support the attack of the company.

He establishes liaison with the rifle company and is prepared to give all possible fire support. Mortars fire in support of the attack from initial positions. Carriers are in defilade.

Reconnaissance is made to select forward positions as attack progresses. Platoon displaces on order of platoon leader.

Platoon leader provides local security and ties in with adjacent rifle elements for protection.

Ammunition resupply is effected.

The platoon reorganizes after capture of objective and prepares to rejoin the main body on the route of march.

a. Platoon in the attack—Continued

Scope

(7) Replacement of ammunition.

(8) Communication and liaison with rifle company.

(9) Reorganization and resumption of march.

Standard procedure

b. Platoon in the defense.

Scope

A problem involving the 81-mm mortar platoon in occupation and organization of positions in support of the main line of resistance and conduct of the defense.

Situations are drawn to require—

(1) Reconnaissance and selection of defilade firing positions and targets.

(2) Occupation and organization of the selected positions.

(3) Establishment of adequate supply.

(4) Computation of firing data.

(5) Firing on targets of opportunity upon request of outpost.

Standard procedure

Upon receipt of orders, the platoon leader moves the platoon in the defensive area. He then selects firing positions and observation posts and determines the sector of fire. He points out to the platoon the location of such positions, sectors of fire, and target areas.

Mortar emplacements and individual foxholes are prepared. Mortars are dismounted from carriers, ammunition placed on the ground and distributed, and carriers are placed in defilade in the rear. Ammunition shelters are dug at each primary, alternate, or supplementary position.

(6) Firing on targets within assigned sector of fire and then shifting to assigned barrages on prearranged signal or order.

(7) Action during artillery bombardment.

(8) Action against penetration of the battle position.

(9) Action when hostile tanks penetrate the battalion rear areas.

Firing data is computed, and overlays prepared showing firing positions, sectors of fire, concentrations, and barrages.

The mortars deliver prearranged fires to cover withdrawal of the outpost.

During an artillery bombardment, personnel take cover prepared to man mortars when hostile fire is lifted.

During tank attack mortars are lowered into emplacements to prevent their being crushed.

The mortars are fired on profitable targets of opportunity upon call. Barrages are fired on prearranged signal. Mortar fires are placed on enemy groups that have penetrated the position.

Following the action, the platoon leader reorganizes the platoon for further employment.

c. Specific situations.—For support of a rifle company in specific situations, see paragraph 4, this appendix, wherein the mortar platoon accompanies the rifle elements in various field exercises.

15. Field exercises.—Field exercises for the battalion reconnaissance platoon are discussed in FM 17–22.

16. Armored infantry battalion.

a. Tactical marches and bivouacs.

Scope

A problem involving a reinforced armored infantry battalion as part of a combat command moving to the front to relieve an infantry unit which is in contact with the enemy.

Situations are drawn to require—

(1) Staff procedure to include preparation of the warning order, march order, and arrangement of details for the march.

(2) Liaison with combat command.

(3) Establishment of adequate communication system.

(4) Movement from old bivouac area along previously designated route of march to new bivouac area near the front line. To include movement by day and night.

(5) Movement into new bivouac area during darkness.

(6) Security measures to be taken against air raid, artillery bombardment, enemy patrols,

Standard procedure

The battalion receives a combat command order to move, late in the afternoon, to a new bivouac area closer to the front.

The subordinate units are notified concerning the impending move. The battalion staff plans the move and, after approval by the battalion commander, publishes the order for the march.

Care is taken to provide necessary coordination between march units. The battalion commander, staff and company officers supervise the march and its proper execution.

Periodic halts are made.

Movement into the new bivouac area is made as expeditiously as possible to clear the route for following serials.

Bivouac security is provided and reported to higher headquarters.

Resupply is completed.

snipers along route of march, and after arrival at new area.

(7) Preparation for further movement to relieve front line infantry unit.

(8) Maintenance of secrecy.

(9) Resupply.

b. Occupation of an assembly area and attack position at night.

Scope

A problem involving a reinforced armored infantry battalion as part of a combat command making a dawn attack.

Situations are drawn to require—

(1) Movement from old bivouac area to forward assembly area during darkness.

(2) Occupation of assembly area.

(3) Movement from assembly area to attack position in preparation for a daylight attack.

Standard procedure

Combat command issues orders for the movement along a prescribed route to an assembly near the front.

Battalion commander formulates his plans and issues orders.

Battalion marches by motor to assembly area adhering to principles learned for tactical marches.

Security is provided and secrecy maintained in new assembly area. Resupply and maintenance is effected.

Battalion commander makes reconnaissance and plans attack. Issues orders to subordinate commanders.

b. Occupation of an assembly area and attack position at night—Continued

Standard procedure

Battalion commander and staff supervise execution of move to attack position.

Radio silence is maintained. Secrecy is preserved to maximum extent possible.

c. Daylight attack of an organized position.

Scope

A problem involving a reinforced armored infantry battalion in the attack of a fortified position.

Situations are drawn to require—

(1) Occupation of an attack position.

(2) Control of the elements of the battalion during progress of the attack.

(3) Movement dismounted across the line of departure.

(4) Maneuver in the attack.

(5) Assault of the hostile position.

(6) Reorganization.

Standard procedure

The battalion commander plans the attack and issues orders to subordinate commanders for a coordinated attack.

Tank-armored infantry teams are formed. Carriers are left in defilade.

Assault companies move across the line of departure supported by the mortar platoon and artillery.

Liaison with adjacent units is maintained.

The attack is launched with all possible speed and violence. Units are forced to maneuver to gain fire superiority.

Maximum fire power is brought to bear in the hostile position. The attack progresses rapidly. The reserve prepares for employment.

The hostile position is assaulted by tank-armored infantry teams. The objective is seized.

The battalion reorganizes and prepares to continue the attack.

d. Attack of mine fields and obstacles.

Scope

A problem involving a reinforced armored infantry battalion as the leading element of a combat command making an attack through a hostile position consisting of strongly defended obstacles and mine field.

Situations are drawn to require—

(1) Reconnaissance and plans for attack through (breaching) the position.

(2) Use of engineers and infantry in clearing a route through the mine field.

Standard procedure

The battalion is ordered to advance through a hostile position known to contain mine belts and obstacles and strongly defended by enemy troops.

The battalion commander and staff reconnoiter and make plans for the operation. All possible supporting fires are obtained to reduce hostile resistance.

Engineers and armored infantry are formed into teams to remove mines and make a gap in the mine field.

d. Attack of mine fields and obstacles—Continued

Scope

(3) Use of tank-armored infantry trains to traverse obstacles.

(4) Plans for and use of supporting fires including tanks and artillery.

(5) Establishment of bridgehead.

(6) Attack of hostile defensive position to allow continued passage of gap by following units.

(7) Preparations to continue the advance.

Standard procedure

The battalion occupies an assembly area as close as possible to the position to be breached. All possible secrecy is maintained.

Under protection of maximum supporting fires, above teams gap mine field, and selected elements pass through to establish bridgehead.

Tank-armored infantry teams operate to reduce obstacles.

This bridgehead and gap is expanded to allow succeeding units to pour through the gap.

The battalion commander makes plans for further employment of the battalion.

e. Sustained defense of a position on the main line of resistance.

Scope

A problem involving a reinforced armored infantry battalion in defense of a portion of the main line of resistance.

Situations are drawn to require—

(1) Movement to the battle position.

Standard procedure

After having received orders to defend a portion of the main line of resistance, the battalion commander and his staff reconnoiter the position, make plans for its occupation and employment of units; plan on supporting fires and antitank

(2) Plans, actions, and orders of the battalion commander and staff to include reconnaissance.

(3) Selection of the outline of the battalion main line of resistance.

(4) Occupation of defensive position by companies and supporting units and their employment.

(5) Plans for supporting fires.

(6) Coordinated fire plan.

(7) Antitank defense measures.

(8) Establishment of security to include an outpost system.

(9) Disposition of carriers and utilization of vehicular weapons.

(10) Counterattack plans.

f. Mobile defense.

Scope

A problem involving a reinforced armored infantry battalion in mobile defense.

Situations are drawn to require—

(1) Assignment of sectors to company and platoon-size units.

(2) Reconnaissance by all commanders.

Standard procedure

The outposts conduct vigorous reconnaissance and divert, harass, and delay, hostile forces to prevent them from launching a coordinated attack.

The battalion reserve is employed to support any portion of the outpost which is in danger of being overrun.

f. Mobile defense—Continued

Scope

(3) Conduct of the defense to include occupation of critical terrain features, cutting main roads, and defense of likely avenues of approach.

(4) Use of carriers and vehicular weapons.

(5) Coordination of supporting fires.

(6) Support of outposts by battalion reserve.

g. Daylight withdrawal.

Scope

A problem involving a reinforced armored infantry battalion withdrawing from a defensive position to an assembly area further to the rear.

Situations are drawn to require—

(1) Withdrawal by echelon of front line units.

(2) Use of reserve.

(3) Movement to battalion assembly area.

Standard procedure

The battalion is ordered to withdraw to an assembly area in the rear.

Front line companies withdraw under cover of support platoons supported by artillery and mortars. Platoons withdraw by thinning out their lines.

The battalion reserve is utilized as the covering force.

Companies mount carriers and move to the rear where they reorganize in a new assembly area.

h. Night withdrawal.

Scope

A problem involving withdrawal of a reinforced armored infantry battalion from a position on the MLR.

Situations are drawn to require—

(1) Establishment of a covering force and withdrawal of units.

(2) Reconnaissance of routes to assembly area.

(3) Movement on foot and on carriers to assembly area.

(4) Preservation of security and secrecy.

(5) Withdrawal of covering force.

Standard procedure

The battalion withdraws by removing simultaneously all elements except troops left in place as the covering force.

Troops and weapons are withdrawn as quietly as possible. Troops in the covering force, by fires and patrolling, simulate the normal activities of the battalion.

Withdrawing units move by previously reconnoitered routes to the initial point where they mount carriers and proceed to the rear.

For purposes of deception, normal communications are maintained until the covering force begins rearward movement. Radio silence is maintained by the units moving rearward.

The covering force is withdrawn so as to be in the rear position by daylight.

i. Delaying action.

Scope

A problem involving a reinforced armored infantry battalion in a delaying action as the covering force for a combat command.

Situations are drawn to require—

(1) Selection of initial and a subsequent delaying position.

(2) Designation of covering force and counterattack force.

(3) Occupation of delaying position and construction of obstacles.

(4) Plans for and use of supporting fires to include tanks, artillery, and mortars.

(5) Counterattack to cover withdrawal.

(6) Occupation of successive delaying positions.

(7) Supply and evacuation.

Standard procedure

This problem is conducted similarly to the daylight withdrawal. The combat outpost gives warning and retires behind the delaying position. Road blocks are erected and defended until forced to abandon.

The counterattack force, with tanks attached, attacks with speed and violence to disrupt the enemy advance and allow the foot elements to move to carriers and proceed to the rear to the next delaying position. The counterattack force moves to the rear after this swift, violent, surprise attack.

The successive rearward delaying positions are occupied as described above.

Evacuation and resupply are performed.

j. Attack of a town.

Scope

A problem involving a reinforced armored infantry battalion as part of a combat command, in the attack of a defended village.

Situations are drawn to require—

(1) Movement along prescribed route of advance.

(2) Deployment necessitated by enemy resistance from town.

(3) Plans and orders for the attack.

(4) Employment of the direct pressure force and flanking attack.

(5) Cutting of enemy escape routes.

(6) Assault of town to include small infantry-tank team action.

(7) Mop-up and reorganization.

Standard procedure

The procedure to be followed in this problem approaches very closely that employed in the attack of a fortified position.

The flanking force attacks wide enough to prevent enemy escape from the town by cutting probable escape routes.

After the town is attacked with all possible supporting fire, the assault is begun.

Tank-armored infantry teams enter the town and reduce hostile centers of resistance.

Enemy who escape are pursued to the restraining line.

After the action reorganization is effected and the march resumed.

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k. Attack of a river line.

Scope

A problem involving a reinforced armored infantry battalion as the advance guard of a combat command in the attack and crossing of a small nonfordable stream.

Situations are drawn to require—

(1) Movement to the river to seize a bridge intact.

(2) Resistance by hostile delaying force and blowing of bridge.

(3) Reconnaissance of crossing sites, assembly area, attack position, routes, terrain on far bank.

(4) Plans for adequate communication from far to near bank.

(5) Plans and orders of all commanders.

(6) Movement into assembly areas and to attack positions.

(7) Crossing the river and landing on the far side.

Standard procedure

The battalion is moving along the combat command axis of advance when it receives orders to seize a bridge along the route before the enemy can destroy it. The enemy, however, destroys the bridge, necessitating a crossing using engineer means.

Combat command engineer resources move up to join the armored infantry battalion.

The battalion commander and his staff, including the engineer officer, make reconnaissance and plans for the crossing. Orders are issued.

Leading companies send (ferry) patrols to the far side.

The crossing is effected utilizing all possible fire support from tanks, mortars, and artillery. Tanks are positioned as close as possible to the near bank.

After crossing, leading companies establish

(8) Supporting fires including tank support.

(9) Establishment of bridgehead and its defense.

(10) Supply and evacuation.

l. Exploitation.

Scope

A problem involving a reinforced armored infantry battalion as part of a combat command in exploitation.

Situations are drawn to require—

(1) A tactical march in exploitation of a success against a weak enemy.

(2) Attack of a hastily occupied position by attack of successive objectives.

(3) Attack through a woods.

(4) Attack of a defended village.

(5) Attack of a river line where the bridge is intact.

bridgehead aided by tanks which have been ferried across.

The battalion prepares to expand the bridgehead while engineer units construct bridges for other combat command units.

Standard procedure

The armored infantry battalion moves out after the successful attack of a fortified position along a separate route of advance.

The battalion encounters hostile resistance along the route and takes appropriate action to reduce enemy resistance.

The advance must be continued with all possible speed. Care must be exercised so as not to attack piecemeal but to conduct coordinated attacks. The speed is obtained by speed and violence of the execution of successive attacks, reorganization, and movement to the next objectives.

m. Night attack with tanks.

Scope

A problem involving a reinforced armored infantry battalion in an illuminated night attack.

Situations are drawn to require—

(1) Reconnaissance during daylight.

(2) Plans and orders for the attack.

(3) Conduct of the attack after dark to seize objectives.

(4) Capture of objective and reorganization.

Standard procedure

The battalion is in an assembly area and receives orders to make a night attack. The battalion commander and his staff make reconnaissance, plan the attack, and issue orders. Company commanders and platoon leaders make reconnaissance.

The battalion moves to the attack position after dark. On prearranged signal illumination is effected and the attack is made. The maximum amount of control must be exercised to effect infantry-tank coordination. After capture of the objective reorganization is effected.

n. Attack of fortifications.

Scope

A problem involving a reinforced armored infantry battalion in the attack of a fortified position.

Situations are drawn to require—

Standard procedure

This problem is conducted similarly to a daylight attack of an organized position. Infantry-tank engineer assault teams are employed to reduce fortifications under all possible fire support.

(1) Movement from assembly area to the attack position.

(2) Use of carriers and vehicular weapons.

(3) Provision for reserve and its employment.

(4) Plan and use of supporting fires.

(5) Use of reconnaissance platoon.

(6) Maneuver and assault of position.

(7) Reorganization.

(8) Resupply.

o. Attack in woods.

Scope

A problem involving the advance of an armored infantry battalion through a woods in conjunction with exploitation.

Situations are drawn to require—

(1) Assignment of zones of advance for companies.

(2) Movement through the woods.

(3) Pursuit of the fleeing enemy by fire and movement.

Tanks are used in direct support. Tank and portable flame throwers are used.

The battalion shoulders its way through the position as the assault teams reduce each obstacle.

The battalion commander shifts the weight of his attack to exploit success by maneuvering and reconstituting the reserve.

The reconnaissance platoon is used to provide flank security.

After successful occupation of the position, reorganization and resupply is effected.

Standard procedure

This problem involves the movement of companies through the woods to reduce enemy resistance and clear the woods. Tank-armored infantry teams reduce antitank positions and sniper resistance. The fleeing enemy is pursued by fire from the far edge of the woods and the encircling force, the reserve company is dispatched on carriers to cut off enemy retreat.

Reorganizaiton is effected after companies have reached the far edge of the woods.

INDEX

	Paragraphs	Page
Action:		
Against:		
Airborne troops	553–555	542
Antitank weapons	220	204
Guerillas	557–564	545
Obstacles and mine fields	565–567	552
Encountering obstacles	221, 502	205, 510
In the assembly area	74, 207, 316, 480	68, 190, 315, 493
On objective	339, 463	345, 471
Tank versus tank	219	201
When advance is halted	226	216
Adjutant	277	266
Administrative and personnel section	296	296
Administrative march	43	41
Advance guard	55, 150, 222, 230–233, 345–347	50, 138, 205, 219, 351
Advance party	67	61
Aid station	126	117
Airborne operations	354	369
Air support in the attack	322, 353	323, 368
Amphibious operations	521–532	522
Combined arms teams	526	523
Debarking	531	526
General	521	522
Loading plans	529	525

	Paragraphs	Page
Amphibious operations—Continued		
Reorganization	532	526
Training	527	524
Waterproofing of vehicles	528	524
Antitank defense	247, 386–387	238, 393
Antitank guns; attack of weapons	220	204
Armored infantry:		
Characteristics	5–8	3
Fundamentals of employment	9–14, 560	7, 548
Missions and capabilities	3	2
Armored personnel carrier:		
Description	6	6
Factors affecting employment	15–16	9
Firing positions	34	24
Vehicular weapons	33–34	23
Artificial illumination	454–456	454
Artillery (*see also* combined arms team)	35, 320, 373–376, 385, 446	25 320, 382, 388, 448
Artillery liaison officer	285, 373, 385	282, 382, 388
Assault	156, 157, 224, 338, 463	150, 151, 214, 344, 471
Echelon	307	306
Fire	155, 224	150, 214
Position	150	138
Waves	478	490
Assembly area:		
Action	74, 207, 316, 480	68, 190, 315, 493

Assembly area—Continued	Paragraphs	Page
Battalion trains	87	75
Characteristics	75, 480	68, 493
Communication	77	69
Coordination	316	315
Dispositions	76	69
General	74	68
Maintenance and evacuation	86	74
Mortar platoon, 81-mm	323, 324	323, 325
Movement to and from	330, 481	337, 494
Occupation	69–70, 76	62, 69
River crossing	480, 481	493, 494
Security	78	70
Selection	74	68
Supply	85	74
Trains	87	75
Attack (*see also* offensive action):		
Assault	156, 157, 224, 338, 478	150, 151, 214, 344, 490
Assault fire	155, 224	150, 214
Axis	312	309
Battalion commander	331	337
Battle reconnaissance	218, 333	201, 338
Cities, towns. (*See* Combat in towns.)		
Communications	90, 487	78, 500
Company commander	223	209
Conduct	152–154, 223, 331–339, 505–506, 508–509	142 209, 337, 510, 513

Attack—Continued	Paragraphs	Page
Control	143, 181	129, 170
Formations	95–103, 144–147, 214–215, 326–328, 461, 477	84, 96, 129, 196, 329, 463, 490
Element to lead	91	78
Fortifications	332	337
Employment of tanks	512	518
General	510–512	517
Organization of force	511	517
From march column	222, 349	205, 362
Frontages	310, 468, 476	308, 479, 489
Guerrillas, against	559–564	547
Jungles	541–544	531
Line of departure	212, 223, 461	195, 209, 463
Main and secondary	300	299
Maneuver, plan	315	311
Methods	92–104	80
Dismounted	99–104	90
Mounted	94–97	84
Night. (*See* Night attack.)		
Objectives	211, 325, 479, 495	192, 328, 493, 505
Action	339	345

Attack—Continued	Paragraphs	Page
Orders	208, 217, 329, 468, 475, app. II, VI	190, 200, 335, 479, 489, 562, 604
Organization. (*See* Organization for combat.)		
Plan	210, 314, 318, 467, 474	191, 311, 319, 478, 487
Position	216, 317, 330, 461, 480, 481	199, 317, 337, 463, 493, 494
Preparation	148–151, 184, 207, 313–320	137, 172, 190, 310
Rallying points	501	508
Reconnaissance	317, 333, 465, 473	317, 338, 476, 485
Reorganization	225, 469	214, 482
Reserves	227–229, 309, 336, 340–342	217, 307, 341, 347
River line	472–487	484
Conduct of crossing	480–485	493
Security	485	499

Attack—Continued	Paragraphs	Page
Strong-points	346	351
Successive objective	350	365
Supporting fires	223, 319–324, 468, 483, 490, 498	209, 319, 479, 496, 502, 506
Support, use	159, 223, 470	153, 209, 483
Task organization	315, 497	311, 506
Time	248	239
Towns, in. (*See* Combat in towns.)		
Types	299, 492	298, 504
Vehicles, disposition	225	214
Weapons, vehicular	34, 334	24, 340
Woods (*see also* woods, attack in)	464–471	476
Zones	213, 311	195, 309
Base of fire	308, 334	307, 340
Battle position	362	375
Battle reconnaissance	218, 333	201, 338
Biological warfare, defense against	284	281
Bivouacs	65–73	59
Advance party	67	61
Area, characteristics	66	59
Area, departure from	73	67
Communication and liaison	72	67
General	65	59
Maintenance and evacuation in	86	74
Occupation of area	69–70	62
Organization of area	68	61
Outpost system	71	65

	Paragraphs	Page
Bivouacs—Continued		
Security of area	71	65
Supply	84	73
Trains	87	75
Built-up areas, defense	547–552	536
Burial and graves registration	129	120
Chemical agents, defense against	284	281
Cold weather operations	513	518
Combat:		
Formations, mounted and dismounted	95–97, app. III	84 569
Jungles	541–546	531
Loading, amphibious operations	529	525
Organization for. (*See* Organization for combat.)		
Towns	507–509	512
Conduct	508–509	513
Defended village, attack	508	513
Large towns, cities, attack	507–508	512
Weakly-held town, attack	509	513
Combat outpost	394, 538	398, 529
Combat trains	108–110	102
Combined arms teams (*see also* organization for combat)	17–19, 345, 348	11, 351, 359
Commandant, headquarters, duties	286	283
Commander's responsibilities, battalion	269–273	261
Rifle company	203	186
Command group	206, 287	188, 283
Command post:		
General	287	283
In defense	245	237
On the objective	339	345

	Paragraphs	Page
Communication:		
Assembly area	77	69
Attack	90, 316, 460, 487	78, 315, 459, 500
Tank-armored infantry	90	78
Battalion	20–28	17
Bivouac	72	67
Daylight withdrawal	432	434
Defense	266, 360	257, 374
March	58	55
Means and methods	20–32	17
Night attack	460	459
Night withdrawal	440	459
Officer, duties	283	280
Personnel	21, 31–32	18, 23
Rifle company	29–32	21
Rifle platoon	143	129
River crossing	487	500
Company, rifle	3, 203–206	2, 186
Orders	App. II	562
Composition:		
Exploiting force	345	351
Headquarters echelons	287	283
Reinforced tank units and armored infantry units (*see also* organization for combat)	17–19	11
Trains	107–109	101
Concentration of effort	11	8
Conduct:		
Attack	152, 153, 154, 223, 331–339, 505–506, 508–509	142, 144, 145, 229, 337, 510, 513
Daylight withdrawal	430–431	431

Conduct—Continued	Paragraphs	Page
Delaying action	443	441
Mobile defense	177, 267, 419, 423	168, 258, 421, 425
Night attack	463	471
Night withdrawal	438	438
Raid	505–506	510
River crossing	401–416	406
Sustained defense	168, 200, 250, 399–403	163, 184, 240, 403
Control:		
Attack	143, 181, 332	129, 170, 337
March	57	54
Mobile defense	266	257
Night attack	460	459
Sustained defense	360	274
Converging attacks	97, 100	88, 91
Coordination:		
Attack	316	315
Attack through infantry	337	341
Delaying action, during	442–447	440
Counterattack:		
Delaying action, during	444, 445	446, 447
Mobile defense, during	256, 412, 426, 427	249, 413, 427, 428
Sustained defense, during	256, 397, 398, 400	249, 401, 402, 405
Counterfire squad	293	291

	Paragraphs	Page
Covering force:		
Delaying action	443	441
March	55	50
Withdrawal	433, 435, 439, 441	434, 436, 439, 440
Crew training, amphibious operations	445	447
Defense, mobile. (*See* Mobile defense.)		
Defense, sustained. (*See* Sustained defense.)		
Defensive operations (*see also* security):		
Airborne attack	553–555	542
Atomic, biological, and chemical	284	281
Built-up areas	547–552	536
Communication	360	374
General	356	373
Hasty	248	239
Jungle	545–546	535
Obstacles and roadblocks	173	166
Orders	App. II, VI	562, 604
Perimeter type	556	545
Principles	235	223
Purpose	356	373
River line	533–539	527
Security	169, 395, 396, 418	164, 400, 401, 420
Supply	110	103
Terrain factors	236	225
Troop leading procedure	40	34
Types	234	222
Woods	540	530
Delaying action:		
As part of larger force	443	441
Composition of force	442	440
Conduct	443	441
Counterattack	444, 445	556, 447

Delaying action—Continued	Paragraphs	Page
Covering force	443	441
Distribution of weapons	443	441
Fire plan	443	441
General	442	440
In one position	447	448
In successive positions	444, 445	446, 447
Purpose	442, 445	440, 447
Reserve	443	441
Security during	443	441
Support during	443, 446	441, 448
Types	442–445, 447	440, 448
Withdrawal during	443	441
Departure from bivouac area	73	67
Desert operations	514–520	519
Direction of the attack	210	191
Dismounted formations	App. III	569
Dispositions in the assembly area	76	69
Distances, march	52	48
Distribution of forces in offense	306	306
Drill vehicle	App. III	569
Duties, battalion staff. (*See* Specific officer.)		
Duties:		
Company commander	203	186
Liaison officers	36	29
Noncommissioned officers	206	188
Platoon headquarters personnel	140, 179	127, 169
Squad leader	141, 180	128, 170
Unit administrator	205	188
Elements of the plan of attack	314	311
Employment:		
Fundamentals	9–14	7
Mobile defense	424–427	427
Mortar platoon	186	173

Employment—Continued	Paragraphs	Page
Reconnaissance platoon	291	289
Reserve battalion:		
Sustained defense	409–410	411
Vehicular weapons	334	340
Engineers (*see also* organization for combat)	398	402
Envelopment	302, 303	301, 302
Estimate of the situation	37–38	31
Evacuation:		
Personnel casualties	125, 127, 128	117, 118
Vehicles	123	114
Evaluation of terrain	223	209
Executive, duties	204, 276	187, 266
Exploitation:		
Action against guerillas	563–564	550
Air support	353	368
Armored infantry, transportation	233	220
Arrangement of force	346, 348	351, 359
Characteristics	344	349
Company	232	220
Conduct	346	351
General	305, 343–344, 353–355	304, 348, 368
Maintenance during	123	114
March column, attack from	222, 349	205, 362
Night attack	352	368
Night defense	351	367
Objectives	344, 350	349, 365
Pursuit	343	348
Reserve	230	219
Security	347	357
Speed	346	351
Strong points, attack	346	351

	Paragraphs	Page
Exploitation—Continued		
Supply during	110	103
Under adverse conditions	355	370
Exploiting force:		
Arrangement	346, 348	351, 359
Composition	345, 347	351, 357
Organization	348	359
Feeding during the march	80	72
Field exercises	App. VII	619
Field maintenance	120	112
Field trains	108, 111	102, 106
Fire:		
Maneuver and	12	8
Organization:		
Mobile defense	174, 264, 417	167, 255, 418
Sustained defense	235, 380–385, 550	223, 385, 539
Utilization	33–35	23
Plan for:		
Attack of river line	474, 483	487, 496
Attack of woods	468, 470	479, 483
Defense	164, 174, 264, 380–385, 417, 539, 550, 551	160, 167, 255, 385, 418, 529, 539, 541
Requests	35	25
Fire power, utilization	33–36	23

	Paragraphs	Page
Flag signals	App. II	562
Flank guards	55	50
Flexibility:		
Characteristic	8	6
Trains	108, 109	102, 103
Force, exploiting	345–348	351
Force, maneuvering	307, 335	306, 340
Forces, distribution of, in offense	306	306
Formations:		
Attack	95–103, 144–147, 214–215, 326–328, 447, 461	84, 129, 196, 329, 448, 463
Combat	95–97, 144–145, 147	84, 129, 136
Integrated, tank-armored infantry	95	84
March	49	45
Tank-armored infantry team	146	134
Vehicle drill	App. III	569
Forms of offensive action	94–104, 301–304, 343–344	84, 301, 348
Fortifications, attack of. (*See* Attack of fortifications.)		
Forward echelon (headquarters)	287	283
Forward observer	34, 376, 385	24, 383, 388
Forward slope	367	379
Fragmentary orders, attack	App. II, App. VI	562, 604

	Paragraphs	Page
Frontage and depth in defense	162, 239, 261, 361, 411, 536, 537	157, 229, 252, 375, 411, 528
Frontages in offense	310, 468, 476	308, 479, 489
Gas officer	284	281
Graves registration	129	120
Ground, organization:		
Mobile defense	263	254
Sustained defense	246, 388–396	237, 395
Guerrilla, action against	557–564	545
Halts on the march	54	49
Hasty defensive position	248	239
Headquarters:		
Commandant, duties	286	283
Echelons	287	283
Headquarters and service company	288–297	284
Illumination in night attacks	452–456	452
Infantry (*see also* combined arms teams):		
Attack through friendly	337	341
Infiltration	44	42
Defense against	403	407
March column	42, 44	38, 42
Initial point	50	47
Integrated formation	95	84
Intelligence officer	278	270
Journal, unit	App. IV	599
Jungle warfare	541–546	531
Characteristics	541–542	531
Employment of tanks	543–546	533

	Paragraphs	Page
Leadership	203, 269, 429	186, 261, 430
Liaison:		
Artillery officer	285, 375, 385	282, 383, 388
Assembly area	77	69
General	36	29
Officers	36, 285	29, 282
Light machine-gun squad	152, 166	142, 161
Limiting points	369	380
Line of departure	212, 223, 561	195, 209, 549
Loading plans, amphibious operations	529	525,
Locating mine fields	565	552,
Location, battalion trains	109–111	103
Machine guns (*see also* attack, defense, fire plan, supporting fires)	152, 166	142, 161
Main line of resistance (MLR)	237, 239, 365–369, 538, 547, 549	227 229, 378, 529, 536, 537
Maintenance:		
Categories	120	112
Exploitation, during	123	114
General	119	112
Jungle	546	536
March	82	72
Platoon	295	296
Radio	122	114
Recovery and evacuation of vehicles	123	114

Maintenance—Continued	Paragraphs	Page
Retrograde action, during	123	114
Signal	122	114
Sustained defense during	123	114
Weapon	121	113
Maneuvering force	307, 335	306, 340
Maneuver, plan	315, 461	311, 463
March:		
Administrative and supply vehicles	62, 81	57, 72
Advance guard	55, 150, 222, 230–233, 347	50; 138, 205, 219, 357
Column, attack from	222, 349	205, 362
Column, types	44	42
Communication	58	55
Company	61	57
Company marching as part of a battalion	60	56
Control and supervision	57	54
Dismounted	64	58
Distances	52	48
Feeding	80	72
Flank guard	55, 222, 347	50, 205, 357
Formation	49	45
General	41	38
Halts	54	49
Initial point	50	47
Maintenance	82	72
Medical service	83	73
Night	59	55
Orders	47, 56, 63, App. VI	44, 53, 58, 604
Phase lines	53	49

March—Continued	Paragraphs	Page
Planning	45	43
Position of trains	81	72
Rate	42, 51	38, 47
Reconnaissance	48	44
Routes	46	44
Security	55	50
Supply	79	71
Table	App. VI	604
Technique	41	38
Terms, explanation	42	38
Types	43	41
Warning order	47	44
Means and methods of communication	20–30	17
Medical detachment	124, 297	116, 297
Evacuation of casualties	125, 127, 128, 355	117, 118, 370
Methods of attack:		
Combination	104	96
Dismounted	98–104	90
General	92, 104, 150	80, 96, 138
Mounted	94–97, 160	84, 155
Without tank support	157	151
Methods of breaching mine fields	566–567	555
Mine fields:		
Action on encountering	566	555
Breaching	566–567	555
Locating	565	552
Use in defense	387	394
Missions:		
Administrative and personnel section	296	296
Armored infantry	3	2
Company headquarters	290	287
Counterfire squad	293	291

Missions—Continued	Paragraphs	Page
Headquarters and headquarters platoon	289	286
Maintenance platoon	295	296
Mortar platoon	292	290
Reconnaissance platoon	291	289
Reserve:		
Attack	227	217
Mobile defense	268, 411, 422, 424	259, 411, 424, 427
Planning, possible	229	218
Sustained defense	255, 370, 409	248, 380, 411
Supply platoon	294	293
Mobile defense:		
Battalion acting alone	421–425	423
As outpost	414–420	415
As reserve	425–427	427
Battalion	413	415
Carriers, disposition	175, 265	168, 257
Communication	266	257
Conduct	177, 267, 419, 423	168, 258, 421, 425
Control	266	257
Counterattack	256, 412, 426, 427	249, 413, 427, 428
Fire plan	174, 264, 417	167, 255, 418
Fundamentals	412	413

Mobile defense—Continued	Paragraphs	Page
General	170, 234, 259, 357, 411, 421, 424, 534	165, 222, 251, 373, 411, 423, 427, 527
Ground, organization	263	254
Orders	App. II, VI	562, 604
Organization for	261, 415–416, 422	252, 416, 424
Organization of outposts	171, 172, 260, 262, 413, 415–416	165 251, 253, 415, 416
Outpost. (*See* Organization of outposts.)		
Principles	235, 259, 412	223, 251, 413
Reconnaissance	355, 414	370, 415
Reserve	268, 411, 413, 420, 422, 424–427	259, 411, 415, 423, 424, 427
River line	534, 537	527, 528
Security	418	420
Strong points. (*See* Organization of outposts.)		
Supply	110	103

Mobile defense—Continued	Paragraphs	Page
Supporting fires	174, 264, 417	167, 255, 418
Task organization	261, 415–416, 422	252, 416, 424
Width of sector	261, 411	252, 411
Morale	296	296
Mortars, 60-mm:		
Attack, preparation for and conduct	184–193	172
Conduct of fire	182	171
Control	181	170
Defense preparation and conduct	194–201	178
Observation	183	172
Organization and duties	179	169
Mortars, 81-mm	292, 323, 324, 372	290, 323, 325, 382
Motor officer, duties	282	279
Mounted formations	App. III	569
Movement:		
Assembly area, to and from	330, 241	337, 232
Attack position	330	337
Retrograde. (*See* Retrograde movements.)		
Nets, radio	20–30	17
Night:		
Attack:		
Assault	463	471
Attack position	461	463
Characteristics	451	452
Communication during	460	459
Conduct	463	471
Control	460	459

Night—Continued
Attack—Continued
Attack position—Continued — Paragraphs — Page
Exploitation — 344, 349, 352 — 349, 362, 368
Formation — 461 — 463
General — 449, 450 — 451
Identification, means — 460 — 459
Illumination — 452–456 — 452
Line of departure — 461 — 463
Line of deployment — 461 — 463
Maneuver, plan — 461 — 463
Orders — App. VI — 604
Planning — 459–462 — 457
Purpose — 450 — 451
Reconnaissance — 459 — 457
Release points — 461 — 463
Support fires — 457–458, 462 — 456, 470
Security — 460 — 459
Surprise — 451 — 452
Unsupported — 451 — 452
Defense during exploitation — 351 — 367
Dispositions in defense — 249 — 240
Marches — 59 — 55

Objectives:
Action — 339, 463 — 345, 471
Attack of successive — 350 — 365
Defensive operations (*see also* counter-attack) — 356–358 — 373
Offensive operations — 211, 325, 339, 479, 495 — 192, 328, 345, 493, 505
River crossing — 479 — 493
Training — 511 — 517

	Paragraphs	Page
Observation posts	165, 244	160, 236
Observer, artillery forward	34	24
Obstacles:		
Action on encountering	221, 502	205, 509
Attacking through	221, 502	205, 509
Mobile defense	356	373
Removal	221, 502	205, 509
Sustained defense	387, 391, 392	394, 397, 398
Occupation:		
Assembly area	69–70, 76	62, 69
Attack position	216	199
Bivouac area	70	63
Defense position, hasty	248	239
Offensive action (*see also* attack):		
Action on the objective	339	345
Against guerrillas	559–564	547
Attack of successive objectives	312	309
Attack through infantry divisions	337	341
Attacking enemy armor	219	201
Attacking through obstacles and anti-tank mine fields	221, 502	205, 509
Base of fire	308	307
Control	143, 181	129, 170
Coordination	88, 93	76, 80
Distribution of forces	306, 307	306
Employment of reserves	336	341
Envelopment	302, 303	301, 302
Estimate of the situation	38	32
Exploitation and pursuit	230–233, 343–355, 563–564	219 348, 650

Offensive action—Continued	Paragraphs	Page
Forms	94–104, 301–304, 343–344	84, 301, 348
Frontages	310	308
Jungles	541–544	531
Maneuvering force	307, 335	306, 340
Maneuver, plan	315	311
Penetration	304	304
Plans and orders	148	137
Reconnaissance	209, 317, 333	191, 317, 338
Reserve	309, 336	307, 341
River line	472–487	484
Smoke	324	325
Supply	108–110	102
Supporting fires	186, 191, 223	173, 176, 209
Supporting force	223, 308	209, 307
Towns	507–509	512
Troop leading	547–552	536
Types of attack	299	298
Woods	464–471	476
Zones	213, 311	195, 309
Operations:		
Against guerrillas, irregulars and partisans	557–564	545
Airborne troops, against	553–555	542
Amphibious. (*See* Amphibious operations.)		
Cold weather (*see also* cold weather operations)	513	518
Desert	514–520	519
Jungle (*see also* jungle operations)	541–546	531

	Paragraphs	Page
Phase lines:		
Attack	332	337
March	53	49
Planning:		
March	45	43
Night attack	459–462	457
Plans:		
Attack	210, 314–322, 467, 474	191, 311, 478, 487
Defense (*see also* mobile defense and sustained defense)	363	376
Loading, amphibious operations	529	525
Night attack	460	459
Training	132, App. VII	122, 619
Platoon:		
Battalion maintenance	295	296
Battalion supply	294	293
Carrier employment	154, 167	145, 163
Combat formations:		
Dismounted	145, App. II	133, 562
Mounted	144–167	129
Conduct of attack	152–158	142
Conduct of sustained defense	168–169	163
Distribution in defense	163, 240–242	158, 230
Fire plan	164	160
Frontage and depth, sustained defense	162	157
Headquarters	139–140, 289	127, 286
Machine-gun squad, employment	152	142
Maintenance	295	296
Mobile defense	170–178	165
Mortar 60-mm	178–201	168

Platoon—Continued	Paragraphs	Page
Mortar 81-mm	292, 323–324, 372	290, 323, 382
Orders	151, 161	141, 156
Organization of ground in defense	166	161
Outpost, mobile defense	171–173	165
Preparation for attack	148–152	137
Reconnaissance	291	289
Rifle	139	127
Security	169	164
Supporting fires	150	138
Support platoon	159	153
Supply	294	293
Sustained defense	160–169	155
Position defense. (*See* Sustained defense.)		
Position of trains	110–111	103
Positions, firing	34, 187	24, 174
Pursuit and exploitation	230–233, 305, 343–355, 563–564	219, 304, 348, 550
Pyrotechnics	30	21
Radiological agents, defense against	284	281
Radio nets	20–30	17
Raids	488–508	501
Rainfall, effect on operation of armored vehicles	16	10
Rallying points	501	508
Rate of march	42, 51	38, 47
Rations. (*See* Class I supply.)		
Rear echelon (headquarters) (*see also* headquarters echelons)	55	50
Reconnaissance:		
Attack	317, 333, 459, 465, 473	317, 338, 457, 476, 485

Operations—Continued	Paragraphs	Page
Mine fields, through	565–567	552
Night. (*See* Night attack.)		
Officer (*see* S–3) through mine fields	565–567	552
Orders:		
Attack	149, 151, 185, 189, 217, 329, 468, 475, App. II, VI	137, 141, 173, 175, 200, 335, 479, 489, 562, 604
Defense	161, 238, App. II, VI	156, 228, 604
March	46, 47, 63, App. VI	44, 58, 604
Mortar platoon	185–189	173
Night attack	App. VI	604
Retrograde	430, 437, App. VI	431, 438, 604
Unit	App. II	562
Organization:		
Armored infantry battalion	4	2
Combat for. (*See* Organization for combat.)		
Combined arms teams	17–19, 34, 261	11, 24, 252
Company reinforced for combat	89	77
Exploiting force	345, 348	351, 359
Ground	166, 246, 260, 263, 388–396	161, 237, 251, 254, 395

Organization—Continued	Paragraphs	Page
Headquarters, headquarters and service company	269–297	261
Mobile defense	415–416, 422	416, 425
Mortar platoon	178	168
Reconnaissance platoon	291	289
Supply platoon	294	293
Sustained defense	246, 248–249, 388–396	237, 239, 395
Organizational maintenance	120	112
Organization for combat (*see also* organization, combined arms team)	17–19, 261, 315, 345, 348, 497	11, 252, 311, 351, 359, 506
Outposts:		
Assembly area	78	70
Bivouac area	71	65
Combat	394, 538	398, 529
Mobile defense	171–172, 415–416	165, 416
Passage of lines	337	341
Penetration	304	304
Defense against	402	407
Supply during	110	103
Perimeter defense	556	545
Personnel:		
Casualties, evacuation	127	118
Communication	21, 31–32	18, 22
Officer. (*See* S–1.)		
Reports	App. VII	619
Section, administrative and	296	296

Reconnaissance—Continued	Paragraphs	Page
Attack of a river line	473	485
Battle	218, 333	201, 338
March	48	44
Mobile defense	355, 414	370, 415
Night attack	459	457
Platoon	291	289
Sustained defense	363	376
Withdrawal	436	438
Recovery of vehicles (*see also* vehicular evacuation)	App. I	558
References	App. I	558
Reinforced battalions. (*See* Combined arms.)		
Reinforced companies (*see also* organization for combat)	17–19	11
Relief	251, 404–408	243, 407
Removal of obstacles	337	341
Reorganization on the objective	158, 193, 225, 469	152, 177, 214, 482
Replacements (*see also* duties of S–1)	277	266
Reports:		
Objective	300	299
Personnel. (*See* S–1.)		
Unit	App. V	601
Vehicle status	280, 282	276, 229
Reserve:		
Battalion in attack	340–342	347
Delaying action	443	441
Initial position in attack	227	217
Mobile defense	268, 362–365, 413, 420, 425–427	259, 375, 415, 423, 427

Reserve—Continued	Paragraphs	Page
Movement to successive positions	228	218
Offense	309, 336	307, 329
Pursuit and exploitation	230	219
Sustained defense	255–258, 370, 409–410, 552	248, 380, 411, 542
Withdrawal	443	441
Responsibilities, battalion commander	269–273	261
Responsibility, supply	106	100
Resupply. (*See* Supply.)		
Retirement	448	449
Retrograde operations:		
Covering force, battalion or	433, 435, 439, 441	434, 436, 439, 440
Daylight withdrawal	429–433	430
Delaying action	442–447	440
General	428, 434, 442	429, 435, 440
Maintenance	123	114
Night withdrawal	434–441	435
Plans and orders	430, 437, App. VI	431, 438, 604
Purpose	428	429
Retirement	448	449
Security	430, 433, 439	431, 434, 439
Supply	110	103
Types	428	429
Reverse slope, defense	252–254, 368	244, 380

	Paragraphs	Page
Rifle company in the attack. (*See* Attack.)		
Defense. (*See* Mobile defense and sustained defense.)		
Platoon. (*See* Platoon.)		
Squad (*see also* squad)	139, 141	127, 128
River line, attack of (*see also* attack of river line)	472–487	484
River line defense	533–539	527
Route reconnaissance	48	44
Routes of march	46	44
S–1 duties	277	266
S–2 duties	278	270
S–3 duties	279	271
S–4 duties	280	276
Security:		
Assembly area	78	70
Attack	485	499
Bivouac area	71	65
Combat trains	110	103
Delaying action	443	441
Exploitation	347	330
General	14	9
March	55	50
Mobile defense	418	420
Night attack	460	459
Objective	300, 485	299, 499
Retrograde	430, 433, 439	431, 434, 439
Sustained defense	169, 346, 393, 395, 396, 538	164, 351, 398, 400, 401, 529

	Paragraphs	Page
Selecting:		
Assembly area	74	68
Initial point	50	47
Method of attack	91	78
Signal:		
Communication. (*See* Communication.)		
Supply	283	280
Smoke in the attack	324	325
Snow operations. (*See* Cold weather operations.)		
Speed in exploitation	346	351
Squad:		
Combat formation	147	136
Counterfire	293	291
Machine gun	152	142
Rifle	147, 163	136, 158
Support	152, 154	142, 145
Staff duties, battalion	274–285	263
Commander's relations	270	261
Strength report (*see also* S–1)	277	266
Strong points, attack	346	351
Strong points in mobile defense	260	251
Subject schedule, training	App. VII	619
Successive bounds	96	87
Successive objectives, attack	350	365
Supervision:		
Attack	223, 331	209, 337
March	57	54
Supply:		
Assembly area	85, 87, 110	74, 75 103
Bivouac	84, 87	73, 75
Class I	113	107
Class II and IV	115	108
Class III	116	109

Supply—Continued	Paragraphs	Page
Class V	117	110
Exploitation	110	103
March	79	71
Offensive action	110	103
Officer. (*See* S–4.)		
Penetration	110	103
Personnel	106	100
Platoon	105, 294	100, 293
Procedures	112	106
Responsibility	105	100
Retrograde operations	110	103
River crossing	486	499
Sustained defense	110	103
Trains	107–110	101
Vehicular loads	118	111
Water	114	107
Supporting fires:		
Artillery	35	25
Attack	223, 319–324, 468, 483, 490, 498	209, 319, 479, 496, 502, 506
Mobile defense	174, 264, 417	167, 255, 418
Night attack	457, 462	457, 470
Retrograde operations	420, 438, 446	423, 438, 448
Sustained defense	373–376	382
Weapons and artillery	35	25
Supporting force	159, 223, 308, 470	153, 209, 307, 483

	Paragraphs	Page
Surgeon's duties, battalion	124, 281	116, 278
Surprise	10	7
Sustained defense:		
Antitank plan in defense	247, 386–387	238, 393
Barrages	374, 385	383, 388
Battle position	362	375
Battalion, front line	361–409	375
Battalion reserves	409–410, 552	411, 542
Boundaries and limiting points	369	380
Built-up areas	547–552	536
Combat command	359	374
Combat outpost	394, 538	398, 529
Command post	245	237
Concentration	374, 385	383, 388
Conduct	168, 200, 250, 399–403	163, 184, 240, 403
Coordinated fire plan	380–385, 539, 550, 551	385, 529, 539, 541
Counterattack	256, 397, 398, 400	249, 401, 402, 405
Dispositions	237, 240–243, 549	227, 230, 537
Dispositions, night	249	240
Dummy works	392	398
Employment of rifle company	370	380

Sustained defense—Continued	Paragraphs	Page
Employment of rifle platoon	160, 240–242	155, 230
Engineers	389	397
Fires, defensive	385	388
Forward slope	367	379
Frontage and depth	239, 361, 536, 537	229, 375, 528
Front-line platoon	241	232
General	237, 358–359	227, 250
Jungles	545–546	535
Limiting points and boundaries	369	380
Main line of resistance	237, 239, 328, 365–369, 538, 547, 549	227, 229, 333, 378, 529, 536, 537
Mortar platoon, 60-mm	194–201	178
Mortar platoon, 81-mm	37	31
Observation	244, 385	236, 388
Obstacles	385, 391, 392	388, 397, 398
Orders	238, App. II, VI	228, 562, 604
Organization for	246, 248–249, 388–396	237, 239, 395
Organization of ground	246, 388	237, 395
Plans	327, 363	330, 376
Position defense, river line	535	527
Position, occupation of hasty	248	239

	Paragraphs	Page
Sustained defense—Continued		
Reconnaissance	363	276
Relief	251, 404–408	243, 407
Reserves	255–258, 370, 409–410, 552	248, 380, 411, 542
Reverse slope. (*See* Reverse slope.)		
Rifle company	370	380
River line	535	527
Security	169, 346, 393, 395, 396	164, 351, 398, 400, 401
Supply	110, 201	103, 184
Supporting fires	373–376, 550, 551	382, 539, 541
Support platoon	242	233
Tanks	377–379	384
Vehicles and weapons	371	381
Wide front	537	528
Woods	540	530
Tactical march	43	41
Tank-infantry coordination in the attack, general	88–93	76
Tanks	321, 377	321, 384
Tank units, reinforced, composition	17–19	11
Task organization	89, 261, 415	77, 252, 416
Teams, combined arms	17–19	11
Teamwork, tank-armored infantry	13, 93	8, 80
Terrain, factors in defense	236	225

	Paragraphs	Page
Time:		
Attack	314	311
Night attack	461	463
Towns, combat in (*see also* combat in towns)	507–509	512
Defense in	547–553	536
Training:		
Amphibious operations	445	447
Conduct	133	123
Field exercises	App. VII	619
Individual	134–135	124
Objective	131	121
Plans	132	122
Schedules	App. VII	619
Special	135	124
Unit	136–138	124
Trains:		
Assembly area	87	75
Battalion	108	102
Bivouac	87	75
Combat	108–110	102
Company	107	101
Field	108, 111	102, 106
Troop leading procedure:		
In the attack	39	33
In the defense	40	34
Turning movement	303	302
Types:		
Defense	234	222
Delaying action	442	440
Unit administrator	205	188
Unit journal	App. IV	599
Unit report	App. V	601
Use of smoke in attack	324	325
Vehicles:		
Disposition of, in defense	167, 265, 371	163, 257, 381

	Paragraphs	Page
Vehicles—Continued		
Loads, composition	118	111
Repair, recovery, evacuation	119, 123	112, 114
Vehicular weapons	33, 371	23, 381
Villages, combat in (*see also* combat in towns)	507–509, 547–553	512, 536
Visual signals	App. IV	599
Warning orders. (*See* Orders.)		
Waterproofing vehicles	528	524
Water supply	114	107
Weather	16	10
Wide front defense	537	528
Wire used in communication	28	20
Withdrawal:		
Battalion as covering force	433	434
Communication in daylight	432	434
Conduct in daylight	430–431	431
Conduct in night	438	438
Counterattack to cover	443	441
Covering fire, night	435	436
Covering force	433, 435, 439, 441	434, 436, 439, 440
Daylight	429–433	430
Delaying action	442–447	440
Conduct	443	441
Fire plan	430	431
General	429, 434, 442	430, 435, 440
Night	434–441	435
Order of movement	430	431
Orders in night	437	438
Plans and orders in daylight	430	431
Reconnaissance in night	436	438
Retirement	448	449
Security in night	439	439

	Paragraphs	Page
Withdrawal—Continued		
Sequence	430, 438	431, 438
Supporting weapons	430, 438	431, 438
Terrain and reconnaissance	430, 436, 443	431, 438, 441
Woods, attack	464–471	477
Advance through	466	477
Exit from	471	483
Frontages	468	479
General	464	476
Near edge, attack	465	476
Plans and orders	467, 468	478, 479
Reconnaissance	465	476
Reorganization	409	411
Support	470	483
Supporting fires	468	479
Woods, defense in	540	530
Zones	213, 311	195, 309